#TAPIA2024

SEPTEMBER 18-20, 2024 | SAN DIEGO, CA

tapiaconference.org

Empowering Inclusion: Advancing The Future of Computing Together

CMDiT
Fostering Innovation Through Inclusion

acm
Association for Computing Machinery

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2024 CMD-IT/ACM Richard Tapia

Celebration of Diversity In Computing Conference

September 18 - 21, 2024

The 2024 CMD-IT/ACM Richard Tapia Celebration of Diversity in Computing Conference is sponsored by the Association for Computing Machinery (ACM) and presented by the Center for Minorities and People with Disabilities in Information Technology (CMD-IT). The Tapia Conference is the premier venue to acknowledge, promote and celebrate diversity in computing. The goal of the Tapia Conference is to bring together undergraduate and graduate students, faculty, researchers, and professionals in computing from all backgrounds and ethnicities to:

- Celebrate the diversity that exists in computing
- Connect with others with common backgrounds, ethnicities, disabilities, and gender so as to create communities that extend beyond the conference
- Obtain advice from and make contacts with computing leaders in academia and industry
- Be inspired by great presentations and conversations with leaders with common backgrounds

This year marks the 18th conference since its inception in 2001. Our 2024 theme is **“Empowering Inclusion: Advancing The Future of Computing Together.”** The 2024 program has been designed to embody our theme.

Center for Minorities and People with Disabilities in Information Technology (CMD-IT)

The Center for Minorities and People with Disabilities in Information Technology (CMD-IT) is a non-profit organization whose mission is to create and deliver programs, events, education and research that advance diversity in computing. CMD-IT fosters strong, long-lasting relationships between industry, academia, government, and the underrepresented communities they serve, which include Blacks/African Americans, Hispanics/Latinx, Native Americans and Persons with Disabilities. Through these initiatives CMD-IT increases awareness of the distinctive needs of each of its communities and advocates for the advancement of better environments and practices for the benefit of all. CMD-IT delivers its mission through outreach, collaboration, and financial responsibility.

CMD-IT is the presenter of the CMD-IT/ACM Richard Tapia Celebration of Diversity in Computing Conference and the organizer of the following programs:

LEAP Alliance

The goal of the NSF BPC Alliance, LEAP (Diversifying Future LEAdership in the Professoriate) Alliance, is to address the broadening participation challenge of increasing the diversity of the future leadership in the professoriate in computing at research universities as a way to achieve diversity across the field. The LEAP Alliance includes four cohorts of universities, with each cohort having common strengths and a common agenda of strategies to increase the diversity in the computing professoriate.

Academic Careers Workshops

The goal of the annual workshop is to mentor assistant- and associate-level faculty and senior doctoral students from our target communities about the academic career ladder. The workshop includes panels of diverse senior faculty talking about the tenure and promotion process, launching a research program, effective teaching, and a detailed session on proposal writing. In addition, the workshop includes a discussion about alternative career paths. The workshops are funded by NSF.

University Award

The annual CMD-IT University Award for Retention of Minorities and Students with Disabilities in Computer Science recognizes US institutions that have demonstrated a strong commitment to increasing the computer science baccalaureate degree production of minorities and students with disabilities, through effective retention programs.

Student Professional Development Workshops

The annual workshop provides undergraduate and masters level computer science students with the unique opportunity to receive coaching and development from industry and government professionals about the job application and interview processes. The workshops are held at the Tapia Conference.

WELCOME!

From The General Chair and Program Chair

Welcome to the 2024 CMD-IT/ACM Richard Tapia Celebration of Diversity in Computing Conference! We are thrilled about this year's conference and are eager to connect with new and returning participants!

This year, our theme is "Empowering Inclusion: Advancing the Future of Computing Together", emphasizing the importance and impact of diverse perspectives and achievements in computing.

Our 2024 program is designed to embody our theme, featuring:

- Over 60 professional development, broadening participation, and technical panels, workshops and Birds of a Feather presentations
- 28 Tapia Student Poster/ACM Student Research Competition presentations
- 6 Doctoral Consortium presentations
- Student Professional Development Workshop
- Industry Leadership & Networking Workshop

Tapia Conference Career Fair with exhibitors from corporate, academic, government and nonprofit sectors
Lastly, we are excited to provide over 150 scholarships to students, faculty, and postdocs!

We are excited to have you join us at Tapia 2024 and hope that you take advantage of every opportunity to learn, meet new people, and be inspired as we celebrate diversity in computing!

Sincerely,

Dr. Valerie Nelson
Tapia Conference General Chair

Shameeka Emanuel Tapia
Conference Program Chair

FEATURED SPEAKERS

Fireside Chat Plenary Panelists

Hakim Weatherspoon
Professor in the Department of Computer Science at Cornell University

Mikela Wright
Sr. Mgr. Software Engineering

Rubén Lozano-Aguilera
Senior Product Manager at Google Maps

Kathleen Shane
Global Lead of Cyber Investigations and Data Protection at Qualcomm

FEATURED PANEL

Ken Kennedy Distinguished Panel

Ann Quiroz Gates
Senior Advisor to the Provost on
Strategic STEM Initiatives

Elizabeth Simmons
UC San Diego's Executive Vice Chancellor

Valerie Taylor
Director of the Mathematics and Computer Science Division
and a Distinguished Fellow at Argonne National Laboratory

FEATURED SPEAKER

Opening Keynote Speaker

Philip McKibbins
Technology Visionary at Dallas Mavericks

2024 RICHARD TAPIA ACHIEVEMENT AWARD

FOR SCIENTIFIC SCHOLARSHIP, CIVIC SCIENCE AND DIVERSIFYING COMPUTING

Chad Jenkins is a Professor of Robotics and a Professor of Electrical Engineering and Computer Science at the University of Michigan. His work aims to discover methods for computational reasoning and perception that will enable robots to effectively assist people in common human environments. Professor Jenkins' research pertains primarily to robot learning from demonstration, semantic perception, and mobile manipulation towards enabling the usability of technology by people in real situations.

Professor Jenkins is currently serving as the Vice President for Educational Activities for the IEEE Robotics and Automation Society. Professor Jenkins was the founding Program Chair of the Robotics Major Degree Program launched in 2022 for undergraduates at the University of Michigan. He was a founding Editor-in-Chief for the ACM Transactions on Human-Robot Interaction, serving from 2016 to 2024. Professor Jenkins served on the Computing Community Consortium from 2019 to 2022. Recently, he was elected Member-At-Large for the Association of Computing Machinery.

As a member of the Computing Research Association's Committee on Widening Participation in Computing Research (CRA-WP), he helped found The Skip Ellis Early Career Award in honor of Professor Clarence "Skip" Ellis, the first American Black person to earn a doctorate in computer science.

Professor Jenkins is a Fellow of the American Association for the Advancement of Science (AAAS) and the Association for the Advancement of Artificial Intelligence (AAAI). He is a Senior Member of the Association for Computing Machinery (ACM) and the Institute of Electrical and Electronics Engineers (IEEE). He is an alumnus of the Defense Science Study Group (2018-19).

Schedule For Wednesday, September 18, 2024

9:00 AM - 8:00 PM
Tapia Conference Check-In
Location: Exh. Hall E

10:00 AM - 4:30 PM
Doctoral Consortium (Private Event)
Location: Pacific F&G

The Doctoral Consortium is a half-day workshop that provides an opportunity for doctoral students to discuss and explore their research interests with a panel of established researchers in computing.

Sport-Computing Spaces: Designing for Identity Supportive Learning Environments
Presenter: Herminio Bodon (Northwestern University)

IrrNet: Spatio-Temporal Segmentation guided Classification for Irrigation Mapping
Presenter: Oishee Bintey Hoque (University of Virginia Biocomplexity Institute)

AutoPrint: An Automatic Print Statement Insertion Tool
Presenter: Minhyuk Ko (Virginia Tech)

Elevating Next Generation Wireless Devices Towards Contactless Sensing for Healthcare Applications
Presenter: Aakriti Adhikari (University of South Carolina)

Data Sharing-Aware Algorithms for Task Allocation in Edge Computing Systems
Presenter: Sanaz Rabinia Haratbar (Wayne State University)

Individual, Institutional, & Philanthropic Approaches to Fostering Tech Entrepreneurialism & Entrepreneurial Infrastructure in Marginalized Communities
Presenter: Maya Mundell (Cornell University)

11:00 AM - 4:30 PM
Leadership and Network Workshop
Location: Pacific H&I

Industry and technical professionals from the CMD-IT community are looking for ways to continue to grow their leadership and networking skills, to support their career development and drive impact in their companies and their communities.

In this four-hour workshop, we provide insights and guidance in five key areas:

1. The importance of defining your “Hero’s Journey” - developing and following an aspirational plan to guide your career

2. The impact of a growth mindset on your personal and professional development

3. The need to invest in building an impactful network and evolving it over time, including mentors, colleagues, and mentees

4. Steps you can take to strengthen your work relationships and grow those outside of your current network

5. A call to action - what to do next

The workshop utilizes a mix of speaker presentations, small group exercises, and an expert guest panel to engage participants over the course of the four-hour session. Two brief activities are required as advance preparation for the breakout sessions. Instructors will be available for Q&A during and after the session. Lunch is included in the workshop.

Presenters: Joseph Dinunzio (UC Davis), Angelica Sanchez (Capital One), Khalil Griffin (Google), Harriet Darkwa (Mastercard)

1:00 PM - 2:30 PM

National Labs Workshop

Sponsored by the Department of Energy and DOE National Laboratories

(Open Invitation)

Challenges and Myths in Recruiting/Obtaining Employment at National Laboratories

Location: Palm 1-3

What is a National Laboratory? Do National Laboratories offer internships? What is scientific computing? How can I learn more about supercomputing?

This Student Opportunity Lab is an interactive discussion and information session for undergraduate and graduate students who are actively exploring and educating themselves about diverse career path options and looking for gems of opportunity in terms of internships (summer or other types), funding programs, and research or postdoc program opportunities. Presenters will discuss the importance of the student internship (and of including a broad set of internship experiences, if possible) in shaping a career path. The presenters will answer the “What is a National Laboratory? (and other) questions and discuss how a National Laboratory experience can provide unique exposure, training, perspective, and skill development to help shape career path and direction with perhaps unexpected and amazing results.

Presenters: Sumit Purohit (Pacific Northwest National Lab), Virginia Do (University Corporation for Atmospheric Research), Raul Viera (Mercado Lawrence Livermore National Laboratory), Anna Pietarila Graham (Los Alamos National Laboratory), Tuguldur Togo Odbadrakh (Oak Ridge National Laboratory), Mike Lopez (Sandia National Laboratories)

Introduction to GPU Programming

(Open Invitation)
Location: Palm 4-6

GPUs have become ubiquitous in high-performance computing (large clusters & supercomputers) and are becoming increasingly common in scientific computing in general (small clusters & workstations). Yet many researchers and computing professionals are not familiar with programming the GPU. In this tutorial, we will teach participants the basics of programming GPUs that are needed to help get them started. We will begin by presenting a general overview of GPU programming, covering topics like the “host-device model” and the different types of programming models that are available (explicit, directive-based, portability layers). Afterward, the participants will choose 2024 Tapia Program Shell 2 whether to follow an Opencast, OpenMP offload, or CUDA track based on their interests and existing knowledge. Each track will be designed as a self-guided, hands-on tutorial with a document that walks them through the exercises to learn the basics of programming GPUs for their chosen programming model. DOE or Chameleon Cloud computing resources will be used for the hands-on exercises and DOE staff will be available to help participants along the way.

Presenters: Elijah MacCarthy (Oak Ridge National Laboratory), Nirmal Prajapati (Los Alamos National Laboratory), William Castillo (Oak Ridge National Laboratory), Tuguldur Togo Odbadrakh (Oak Ridge National Laboratory)

1:00 PM - 3:45 PM

Student Professional Development Workshop

(Invitation Only)
Location: Pacific B

The Student Professional Development Workshop (SPDW) provides undergraduate

and masters level computer science students who have a 3.0 or higher GPA with the unique opportunity to receive coaching and development from industry and government professionals. The workshop seeks students from CMD-IT's target communities: African Americans/Blacks, Native Americans/Indigenous People, Hispanics/Latinx, and People with Disabilities.

The SPDW includes panels where professionals share best practices for resume writing, interview skills, professionalism, and networking. Students also have the opportunity to receive detailed resume reviews by multiple industry and government professionals.

2:00 pm - 4:00 pm

Graduate School Funding Opportunities & The GEM Fellowship

(Open Invitation)
Location: Sunset 1-3

“Show me the Money” … and then give it to me! During this workshop, you will find how to identify and apply for funding whether you are in graduate school or just finishing your first semester as an undergraduate. This information will give you insight on how much money is available, how to find it, how to apply for it, and how to secure it! Come find out why no one should pay for graduate school if they go about it correctly!

Presenter: Marcus Huggans Executive Director, Client Relations The National GEM Consortium

2:45 pm - 3:30 pm

Using containers at National Laboratories for Scientific Computing

(Open Invitation)
Location: Palm 1-3

DevOps is the combination of software development (Dev) and operations (Ops) to increase efficiency and speed of delivery. The DevOps practices, among others, includes continuous integration to find and address code issues quicker, continuous delivery to automatically release software, infrastructure as code to automate system configuration. Containers have become a critical component of DevOps as they package up the code, dependencies, tools, and configuration making them portable across environments. This session gathers developers from the Department of Energy Laboratories to discuss their experience and current applications of containers. Discussion topics include an overview of containers, orchestrating scientific workflows, and lessons learned from containers in HPC.

Presenter: Raul Viera-Mercado (Lawrence Livermore National Laboratory), (Elijah MacCarthy (Oak Ridge National Laboratory), Shivam Mehta (Los Alamos National Laboratory)

2:45 pm - 4:15 pm

Cyber Sleuths: Making Sense Out of Chaos Fusing Cyber Data and Intelligence Information

(Open Invitation)
Location: Palm 4-6

Have you ever been curious about what a day in thelife is like for a cybersecurity analyst? Do you like doing investigations, data analysis, and solving puzzles?

This interactive workshop will provide participants with the opportunity to act and think like a cyber security analyst by participating in a tabletop scenario where they will investigate a data breach incident, form hypotheses, test them against new information, and defend their conclusions about the most likely explanation about who stole the data and why.

Cyber security analysis provides insight into the motivations, intent, tactics, techniques, and procedures (TTPs) of cyber threat actors – focusing on the “why” and not just the “how” of cyber operations. This insight

allows organizations to prioritize their preemptive and mitigating actions to address vulnerabilities exploited by threat actors. It also supports decision-makers in making informed, strategic-level decisions to support the confidentiality, integrity, and availability of organizational assets.

While the overall analysis workflow involves much more than the example this workshop will focus on, we will provide an environment that represents activities that a cyber security analyst will face on a regular basis, providing a window into the career of a cyber security analyst. Given the broad list of analysis elements, this session will focus on data fusion, investigative research, analytic rigor, and report production.

The session is split into one or more phases, where participants are provided specific sets of information that mimic the information a cybersecurity analyst would encounter, including any data analysis a cybersecurity analyst would perform. Additionally, tangential information that may not be part of the “real” story may be provided. After each phase, participants will perform their investigative research, discuss in groups, and decide what they would advise their decision-makers based on the information available to them. Choices will be provided which everyone will provide their vote via a voting mechanism, and then get an opportunity to defend their choice. The distribution of votes from the participants will be displayed for all to see. No laptops will be required, as materials will be provided for this tabletop exercise. However, materials will also be provided via Google Docs if you choose. Additionally, a phone or device will be needed to vote on choices.

Participants with an interest in cyber security or analysis can use this session as a data point to determine their own career paths. Professionals in computing or related fields will be afforded an opportunity to understand how cyber analysis can benefit their own research and innovation goals. It is the hope that all participants will walk away with a positive and informed experience of the cyber security analyst profession.

Presenters: Stacey Hartley-McBride (Pacific Northwest National Lab), Hector Suarez (Oak Ridge National Laboratory), Gillian Hsieh Ratliff (Alamos National Laboratory)

3:30 pm - 4:15 pm

AI for Critical Systems Forecasting and Management: A Perspective

(Open Invitation)
Location: Pacific H&I

The role played by AI today can be loosely binned into two pillars. The first pillar is AI in "hard" science and engineering, which has been rigorously researched due to its massive impacts on technology. The second pillar of AI resides in "soft" science areas such as social media, literature and entertainment, which have received with skepticism and alarm due to its impacts on the human experience. In this talk, I will discuss the promise of AI as a third pillar: Critical systems, which are hard scientific problems that have an immediate, direct and consequential impact on our communities. Managing critical systems requires a combination of scientific expertise, risk assessment, human experience and social trust. Examples include the power grid, banking and financial infrastructure, transportation networks and communication infrastructure. Enabling all this infrastructure is the most fundamental and also the least understood critical system of all: Our planet earth. Analysis and forecasting of the earth’s dynamics has been historically challenging, and this is exacerbated due to uncertainty driven by climate change. As a result, our existing tools and approaches are entering uncharted waters. Yet, a silver lining is the massive advancement in our data acquisition and earth monitoring capabilities. This can fuel an AI revolution to

forecast and manage the increased stress on public infrastructure, food security and impact on vulnerable communities. My talk will focus on how to approach AI for forecasting critical systems and disaster management, as there are crucial differences from the other two pillars. A particular focus will be on the transferability and common pitfalls of academic AI research to real-world applications. While I will demonstrate my research efforts in this area, the goal of this talk is to stimulate a broader conversation on AI for addressing these urgent concerns. I will discuss what we can - and most importantly cannot - expect from AI in this domain, and when it's done right, its potential to revolutionize how we safeguard our societies.

Presenter: Arvind Mohan Staff Scientist (Los Alamos National Laboratory)

3:30 PM - 4:15 PM
CMD-IT SPDW Breakout Session (Invitation Only)
(Invitation Only)
Location: Pacific A

4:30 PM - 6:00 PM
Tapia 2024 Fireside Chat
Location: Town & Country Ballroom

The Impact of Technology Trends in AI, Cybersecurity, HPC, Quantum Computing, etc.

The Fireside Chat session focuses on emerging and continuing technology trends that significantly impact organizations. In particular, the focus is on the trends in many areas, such as AI, Cybersecurity, HPC, Quantum Computing, etc. While the use of AI is rapidly expanding, it is important to also bring focus to other highly impactful and evolving technologies at play. Panelists will discuss the technical trends relevant to their organization and the impact on the organization's processes and products. Presenters: Hakim Weatherspoon (Cornell University), Mikela Wright (Capital One), Rubén Lozano-Aguilera (Google), Kathleen Shane (Qualcomm)

BIOGRAPHIES

Hakim Weatherspoon is a Professor in the Department of Computer Science at Cornell University, Co-Director of the Cornell Institute for Digital Agriculture (CIDA), and the Chief Scientist of Exostellar, Inc (http://exostellar.io). His research interests cover various aspects of fault-tolerance, reliability, security, and performance of internet-scale data systems such as cloud and distributed systems. Weatherspoon received his PhD from University of California, Berkeley. Weatherspoon has received awards for his many contributions, including the University of Washington, Allen School of Computer Science and Engineering, Alumni Achievement Award; Alfred P. Sloan Research Fellowship; National Science Foundation CAREER Award; and a Kavli Fellowship from the National Academy of Sciences. Weatherspoon has also been recognized for his work to promote diversity, earning the University of Washington, College of Engineering, Diamond award and Cornell's Zellman Warhaft Commitment to Diversity Award.

Mikela Wright is a motivational speaker and award-winning people connector in Technology and beyond. She's a Senior Manager in Software Engineering, responsible for software solutions that enable Capital One Traders and balance sheet management within Predictive Analytics. Mikela's unique career journey inspired her to create the ASPIRE method to empower others to navigate the imposter syndrome and confidence building. She advocates for others to conquer the Imposter Syndrome and has spoken at universities, organizations, and major conferences, such as Grace Hopper, Black is Tech, Women Who Code, and America on Tech. She is actively involved in technology recruiting efforts to increase representation and initiatives that promote

STEM to underrepresented communities. Mikela has been featured on leader-focused podcasts and in editorials for AfroTech and Capital One Blogs. She created and launched the award-winning mentoring program, Rise Up Mentorship, which has supported over 2,000 associates from entry to VP levels. Her new favorite Tech community contribution is being a Hackathon judge for the organizations, including the HBCU Battle of the Brains, National Society of Black Engineers, and various. Mikela received the Circle of Excellence Award, which is the highest honor and level of recognition at Capital One and the program's success received the Julie A. Elberfeld: Diversity, Inclusion, & Belonging (J-DIB) Fusion Award for its impact to DIB and beyond. Outside of Technology, Mikela enjoys cooking soul food with a healthy twist and loves traveling.

Rubén Lozano-Aguilera, a Senior Product Manager at Google Maps, is a leader in reimagining sustainable transportation. He focuses on redefining the best driving route for everyone, where faster is not always better, and where resilience to climate impacts is key. As the Driving Directions Lead, his team's goal is to help people get to places on time while providing safer and more sustainable choices. His work has had a significant environmental impact, spearheading the development of fuel-efficient routes and mode shift suggestions within Google Maps. With 15+ years of product and strategy leadership at Amazon, Microsoft, and Samsung, Rubén brings a proven track record of tech innovation. He has mentored startups, nonprofits, and LGBTQ+ organizations globally. He currently serves as a Gen AI Coach at Google.org and is a current member of the CMD-IT Industry Advisory Board. Rubén holds a B.S. in Electrical Engineering from Tec de Monterrey and an MBA from MIT Sloan.

Kathleen Shane is the Global Lead of Cyber Investigations and Data Protection at Qualcomm Inc. With 11 years of experience at Qualcomm, Kathleen has held various roles focused on protecting the company from insider threats. She holds a Master's degree in Cybersecurity and Information Assurance from Penn State University and a Bachelor of Science in Justice Studies from Arizona State University. Prior to joining Qualcomm, Kathleen spent over 20 years in law enforcement, specializing in white-collar crime, public corruption, and digital forensics. When joining Qualcomm, she was able to refocus her passion for protecting the people to protecting the company. She is an active volunteer for the International Association of Computer Investigative Specialists, an organization that provides cutting-edge computer forensics training and certification. Kathleen is excited about advancements in new technologies as they will enhance their capabilities in digital forensics and data loss prevention. Outside of the office, you can find Kathleen training and competing with her three dogs in the sport of dog agility.

6:00 PM - 8:00 PM

Career Fair

Location: Golden State

The Career Fair includes representatives from our supporters from industry, academia, government, and non-profit organizations supporting individuals in computing.

8:00 AM - 7:00 PM
Tapia Conference Check-In
Location: Town & Country Foyer

9:00 AM - 9:30 AM
Welcome and Announcements
Location: Town & Country Ballroom

9:00 AM - 9:30 AM
Keynote: My Journey of Servant Leadership to the C-Suite
Location: Town & Country Ballroom

Servant leadership is both a leadership philosophy and a set of leadership practices. Traditional leadership generally involves the accumulation and exercise of power by one at the "top of the pyramid." In comparison to traditional leadership, the servant-leader shares power puts the needs of others first, and helps people develop and perform as highly as possible. Servant leadership turns the power pyramid upside down; instead of the people working to serve the leader, the leader exists to serve the people. When leaders shift their mindset and serve first, they unlock purpose and ingenuity in those around them, resulting in higher performance, self-satisfied, and fulfilled employees. A servant leader's purpose should be to inspire the people they influence. My speech seeks to demonstrate the conceptualities and how servant leadership makes the workforce more efficient in the organization.

Keynote Speaker: Phillip McKibbins (Dallas Mavericks)

Phillip Gregory McKibbins is the Chief Technology Officer for the Dallas Mavericks, specializing in digital transformation through technology strategy, adaptation, and automation. He holds Executive Education certificates from the Wharton School of Business and the Darden School of Business, an MBA in Entertainment Business from Full Sail University, and Engineering Degrees from the University of Southern California in Biomedical and Mechanical Engineering. Phillip possesses a background in developing complex infrastructures and solutions for Fortune 500 companies, startups, and professional sports teams in the NBA, MLB, and NFL. Phillip's achievements include winning a Sports Emmy Award and the Workfront Technology Leader Award. Currently, he leads the technology vision for the Mavericks, focusing on innovative content delivery and fostering a culture of collaboration. Phillip is a servant leader with a professional philosophy that centers on using technology to improve lives while considering social and ethical impacts.

10:30 AM - 12:30 PM
Career Fair
Location: Golden State

10:45 AM - 11:45 AM
Private Student Poster Presenters' Luncheon
(Invitation Only)
Location: Sunset 1-3

TECH TALK

11:00 AM - 12:00 PM
Diving into the AI Frontier: Unveiling History, Resume Mastery, and Capital One’s Trailblazing Programs
Location: Pacific D

Immerse yourself in interactive workshops and engaging discussions as we unveil practical techniques for leveraging AI technology to create compelling résumés and unlock new career opportunities. Gain invaluable insights from industry experts and learn firsthand how Capital One integrates AI into its pioneering early career initiatives.

Presenters: Mikela Wright (Capital One), Angelica Sanchez, (Capital One), Chiara Barden (Capital One)

PANELS, WORKSHOPS & PRESENTATIONS

11:00 AM - 12:00 PM

It Starts Before College

Location: Pacific C

Computing can be challenging and students entering the world of higher education to study computing can struggle through the beginning sets of introductory classes. This can be true for anyone, but even more so if they have never studied computing before or don't feel like they belong in the community. Due to emotional distress, imposter syndrome, external pressures, and more, it's becoming ever more important to make sure students are set up for success from the beginning and understand how to do that. This workshop invites participants to explore the foundational principles of fostering accessibility, inclusion, and healthy habits for success in higher education, starting well before college. Embracing a holistic perspective that emphasizes proactive support and equitable opportunities, this workshop aims to inspire transformative change in educational practices. Participants are empowered to champion accessibility and inclusion, fostering a culture of empowerment, resilience, and belonging for every student on their educational journey.

Presenter: Kapua Ioane (TRiO Upward Bound)

11:00 AM - 12:15 PM

Do You Want an Internship? Here's How: How to Get an Internship/Job in Tech

Location: Palm 1-3

As a student, you are always told to "get an internship", but no one really shows you how. In this session, you'll learn how to set yourself up for success throughout the application process AND you will learn how to talk to recruiters during Tapia's Career Fair, including:

- How to find an internship during any college year
- How to make a plan to apply to and interview with companies
- The secrets to successful interviewing and career fair prep

And more!

You'll receive a handout with these and more tips. If you are an early career professional who wants to get into tech, this is also for you.

Presenter: Alejandro Davila (Palantir Technologies)

11:00 AM - 12:00 PM

Effective Programs for Increasing Diversity in Computing: Learning and Engaging

Location: Pacific A

This workshop provides an opportunity for representatives from the NSF-funded Broadening Participation in Computing Alliances and other organizations to share their effective programs about increasing diversity in computing. The workshop will begin with representatives sharing one effective program from each of the following NSF BPC Alliances and other organizations: AccessComputing, blackcomputeHER.org, CAHSI, CMD-IT/LEAP, CRA-W, ECEP, iAAMCS, NCWIT, and STARS. The attendees will have an opportunity to break up into nine groups, with each group having an opportunity to learn the details about the effective program such that information can be taken back to the institution for implementation or partnerships can be established. Participants will have an opportunity to learn about three effective programs.

Presenter: Dr. Valerie Taylor (CMD-IT)

11:00 AM - 12:15 PM

Product Management 101: Building Products with Purpose

Location: Palm 4-6

Product Management isn't just about features and deadlines; it's about solving real problems and making a positive impact. This session focuses on best practices that can refine your approach. We'll cover essential topics such as user research, cross-functional collaboration, and product excellence. Learn how to pinpoint customer needs accurately, make data-driven decisions, and build products that users genuinely love. Enhance your skills and bring these strategies to your organization for better results.

Presenter: Rubén Lozano-Aguilera (Google)

11:00 AM - 12:15 PM

Supercharge your studies with public research testbeds

Location: Pacific E

This session will present three public research testbeds - FABRIC, Chameleon and SPHERE. Each testbed has been funded by the National Science Foundation, and is free to use by US students and professionals. Presenters will describe each testbed and discuss how it can be used to enhance student education, build practical skills in their area of studies, or provide data and computational resources for their graduate research.

Chameleon is a large-scale, deeply reconfigurable experimental platform built to support Computer Science research, education, and emergent applications. Chameleon projects range from systems research developing new operating systems, virtualization methods, performance variability studies, and power management tools to projects in software-defined networking, artificial intelligence, and resource management. FABRIC provides fast, configurable and programmable network access to a variety of distributed public testbeds, as well as public clouds. It has been used to support research in a variety of scientific domains that need high-speed, high-volume computation and data transfer, such as networking, cybersecurity, distributed computing, storage, virtual reality, 5G, machine learning, and science applications. SPHERE is a recently funded testbed for cybersecurity and privacy experimentation, with a variety of specialized hardware, labeled datasets and teaching materials in cybersecurity and privacy.

Attendees will be able to learn about each testbed's resources and services, and to briefly test-drive an experiment on each testbed.

Presenters: Jelena Mirkovic (USC Information Sciences Institute), Marc Richardson (University of Chicago, Computer Science Department), Kuang-Ching Wang (Clemson University)

12:15 PM - 1:45 PM

BPC Accelerator Lunch

(Invitation Only)

Location: Pacific H&I

12:15 PM - 1:45 PM

CMD-IT Lunch

(Invitation Only)

Location: Pacific E

12:15 PM - 1:45 PM

General Lunch & Networking

Location: Flamingo Lawn

POSTERS

12:15pm - 1:45pm

Tapia Student Poster & ACM Student Research Competition Round I

Location: Pacific Foyer

A Liberatory Mentoring Approach to Vertically Integrating Black Undergraduates Into Computing Research
Poster Authors: Oluwagbeminiyi Johnson, Luce-Melissa Kouaho, Marlon Mejias

eHMI Effectiveness Tested With Unity Virtual Environment
Poster Author: Abijith Manikandan

Facilitating Team Formation based on Users' Feedback: A Multi-Armed Bandit Approach
Poster Author: Mohammed Almutairi

CodeBears: Breaking Stereotypes and Feeding the STEM Pipeline
Poster Author: Michael Adeleke

Guide Dog Robot for Visually Impaired People: Audio Source Localization and Classification for Hazard Detection
Poster Authors: Shiven Patel, Hochul Hwang

DISPATCH: Entangled Security Patch Unravelment in Open-Source Software
Poster Authors: Shiyu SunYunlong Xing, Xinda Wang, Kun Sun

Investigating Security Code Defects in ChatGPT-generated Java Code
Poster Authors: Matheus Karam Westphalen, Laura Boettcher

Visual Parsing of Command Cards for an Equitable Augmented Reality Learning System
Poster Authors: Pushpita Saha Saha, Matthew Furber, Paul Bible

Low-Cost Monocular Vision Localization and Feedback Control Strategy for Quad-Rotorcraft Unmanned Aircraft Systems (UAS)
Poster Author: Nicholas Grijalva

Comparing Instruction Methods for DailyBuddy: A Mobile App for Improving Daily Living Skills for Adults with Autism
Poster Authors: Zahra Borhani, Alban Delamarre, Lena Hinzer, Lauren Ferguson, Rhianna Jenkins, Francisco R. Ortega

Using Webcam-Based Eye Tracking To Model Attention with Neurodivergent Learners
Poster Author: Grace Jaiyeola

HiDiNet: High-Dimensional Interpretive Network for Modeling Aging Health and Survival
Poster Author: Hannah Guan

Data Sharing-Aware Online Algorithms for Task Allocation in Edge Computing Systems
Poster Author: Sanaz Rabinia Haratbar

Irrigation Canal Mapping: Constraining the Network Topology and Reachability to Water Sources
Poster Author: Oishee Bintey Hoque

Zero-Shot Classification of Adverse Drug Events Using Large Language Models
Poster Authors: Howard Prioleau, Saurav Aryal

"Dying languages or dead-end tools?": a review of computational linguistics models for Tupian languages
Poster Author: Livia Stein Freitas

Enhancing Sentiment Analysis in African Languages with Transformer-Based Models
Poster Author: Robert Spicer

Improving the Efficiency of Causally Ordered Unicast Using a 'Minicast'
Poster Author: Laine Rumreich

Automated Responsible Data Collection of African American English for ASR Training
Poster Authors: Alvajoy Asante,Gloria Washington, Marlon Mejias

Virtual Timers for Improved Task Management and Collaboration during Resuscitation Procedures
Poster Author: Jalynn Nicoly

MoiréWidgets: High-Precision, Passive Tangible Interfaces via Moiré Effect
Poster Author: Daniel Campos Zamora

LLM-Augmented Knowledge Graphs for EHR Summarization
Poster Author: Tristram Dacayan

Breaking the Binary
Poster Authors: Camille LeuteSophie MartyrossianOscar Gonzalez

Accessible Education Platform Development for Arizona State University's Employment Assistance & Social Engagement (EASE) Program
Poster Author: Crislana Rafael

Exploring Diversity, Equity, and Inclusion Initiatives Targeted at Black and Latino Undergraduate Experiences in College of Engineering Disciplines
Poster Author: Danielle Radford

Evaluation of Driving Behavior in Response to Dynamic Message Signs Using Connected Vehicle Data
Poster Author: Dorcas Okaidjah

Harnessing Machine Learning for Predictive Analytics: A Case Study of Lassa Fever Outbreaks in Nigeria
Poster Author: Daniel Quezada

Multi-User EEG-Based Brain Robot: A Pilot Study
Poster Author: Myles Lewis

1:15 PM - 4:30 PM
Career Fair
Location: Golden State

1:45 PM - 2:30 PM
Lightning Talks
Location: Pacific C

Fostering a Disability-Inclusive Research Culture with Dynamic Mutual Micro-Accommodations (DyMMAs)

A recent NSF DCL (23-160) highlighted the urgent need for inclusive environments to encourage broad participation of scholars and trainees with disabilities (STWD), with sharp drop offs from post-secondary to graduate degrees (59% drop) and from graduate to faculty (50% drop).

In this talk, we will share some best practices and lessons learned from our experiences as neurodivergent and/or disabled PIs, fostering an inclusive and accessible research culture in computer science, emphasizing STWD.
We will introduce Dynamic Mutual Micro-Accommodations (DyMMAs), our novel framework for fostering a disability-inclusive research culture in computer science for STWD. Under DyMMAs, disclosure and access/accommodation requests can morph from painful, invasive bureaucratic processes, to granular and open sharing of dynamic disability-based, shifting access needs, all in a supportive and safe environment. DyMMAs are not a replacement for formal, legally mandated accommodations. Rather, we envision DyMMAs as an informal mechanism reducing stigma and smoothing over many of the day-to-day challenges in research environments, especially regarding dynamic disabilities, neurodivergence, and other hidden or variable access needs.

We will share our experience developing and offering DyMMAs in our own labs, and how we lead the process by example. We will share some of the informal micro-accommodations we - as PIs and advisors - have provided in a circular manner by and for team members, with concrete examples. We will close with suggestions for all PIs and team members (whether disabled or otherwise) to foster an access-first culture.

Presenters: Shiri Dori-Hacohen (University of Connecticut Disabled In Computing),

Fabricio Murai (Worcester Polytechnic Institute)

Code to Impact: Use Software for Social Good While Prepping for Your Dream Tech Job

The technology industry faces a growing skills gap, with 67% of employers reporting recent college graduates lack the technical abilities needed for software engineering roles. Concurrently, many communities face challenges where technology-based solutions could drive meaningful impact. This study presents an experiential learning program equipping undergraduate college students to develop software applications addressing social issues and community needs. Interdisciplinary student teams work on practical software projects with support, including mentorship, project management tools, cloud computing resources, and hardware. To date, forty-one students in the program have built seven software applications tackling challenges from food insecurity to financial literacy. Analysis of learning outcomes shows participants gain significantly in technical proficiency as well as an understanding of software engineering principles. With its dual emphasis on building project management skills and driving social change, the program offers a model for narrowing the technology skills gap while delivering community impact. Qualitative and quantitative findings demonstrate the program's effectiveness at achieving both these goals through experiential software engineering projects tailored to address real-world problems. The students gain exposure to the full software development lifecycle, from ideation and requirements gathering to programming, testing, and launch. Core programming skills are built through writing and shipping code for a functioning software solution in their choice of programming languages and mobile or web platforms. This approach has broad applicability as a scalable, repeatable model enabling higher education institutions to strengthen the career readiness of graduates while developing social responsibility.

Presenter: David Houngninou (Texas A&M University Teamup)

Data as a Disruptor: BI for Equity in Latinx Tech

Latinx entrepreneurship is a powerful force driving economic growth, with 86% of new businesses launched by Hispanics in the past decade. Despite this success, Latinx founders and entrepreneurs still face unique challenges in the tech industry, including limited access to capital, mentorship, and networking opportunities. This talk explores how Business Intelligence (BI) can be a tool to disrupt these disparities, empowering Latinx tech ventures and fostering a more inclusive tech ecosystem.

Presenter: Amee Gil (Analytixx)

1:45 PM - 2:45 PM
Panels, Workshops & Presentations

Improving the Accuracy of Ciliopathy Diagnostic Model with Self-Supervised Contrastive Learning Methods

Location: Pacific D

Cilia is an important life-preserving and disease-driving organelles whose quantification and diagnosis with manual method are slow, complicated and often result in occasional misinterpretation of visible abnormalities. Such diagnostic errors are known to have perilous repercussions on patients' health. Automated computer-assisted methods (CAMs) for cilia quantification will help uncover the peculiarities of cilia, provide clinicians with the needed anatomical structural information for ciliopathy identification, and improve the accuracy of the results. A number of CAMs have been developed with different levels of automation. Prominent among these are traditional machine learning (ML) and deep learning (DL) approaches, with promising cilia

quantification results. However, literature suggests that the performance of many ML and DL models suffer serious degradation in the presence of extremely limited or unavailable labeled image data. This study addresses this bottleneck by proposing self-supervised contrastive learning (SSCL) frameworks to leverage cilia video data with limited labels to capture the complex and diverse dynamic spatio-temporal correlations, analyze the performance, and improve the accuracy of ciliopathy diagnosis. The extensive experiments conducted on cilia dataset, and the impressing results produced validate the predictive strength of SSCL methods and their effectiveness in addressing the challenging but important task of learning the spatio-temporal correlation between different object regions in videos, which other methods struggle with. The study shows that the proposed model provides significant improvements over the state-of-the-art image and video contrastive learning methods that were validated with real-world datasets with limited labels.

Presenters: Blessing Ojeme (Morgan State University), Sampson Akwafuo (California State University, Fullerton) Kabeer Hassan (North America Electric Reliability Corporation)

NSF Funding Opportunities

Location: Sunset 1-3

This session will focus on funding opportunities with the National Science Foundation (NSF) in the Directorate for Computer and Information Science and Engineering (CISE). Details about current and future requests for proposals will be discussed. Further, participants will have an opportunity to learn about strategies for successful proposals. The session will include time for questions from the audience.

Presenter: Dilma Da Silva (National Science Foundation)

3:00 PM - 4:00 PM

Panels, Workshops & Presentations

Beyond The Classroom: Your Early Years As A Software Engineer

Location: Pacific C

You're starting your first tech job tomorrow, and you're a bundle of nerves. You've been taught the technical basics in school, but how do you navigate your early career as a software engineer? After all, working in the industry isn't as straightforward as in the classroom; it's no longer about attending classes and writing exams. This territory feels unfamiliar to most of us because we're not taught how to approach this best. This presentation addresses those early years as a recent graduate where one can feel lost and insignificant, with tips to start making meaningful contributions, creating a great first impression, and setting yourself up for long-term success!

Presenter: Fatima Taj (Yelp)

Designing Tomorrow: A Human-Centric Approach to AI and Technology

Location: Palm 4-6

As the digital landscape evolves, ensuring technology development is inclusive and human-centric is paramount. Eric J Rodriguez, former Education Regional Director at Intel and a recognized leader in tech and education, presents an interactive workshop exploring the intersection of artificial intelligence, machine learning, and human values. This session delves into how we can leverage AI to bridge societal gaps, focusing on inclusivity, empathy, and ethical considerations in tech innovation. Participants will engage in discussions, case studies, and activities designed to illuminate the importance of incorporating diverse perspectives in AI development, from design to deployment. Eric draws on his vast experience, from engineering to strategic leadership, to guide attendees toward a future where technology genuinely enhances the human experience.

Presenter: Eric Rodriguez (Change Maker LLC)

Flip the Script on the Interview Process
Location: Pacific E

Are you feeling overwhelmed by the prospect of job interviews? In today's competitive landscape, excelling in interviews requires more than just technical prowess. It's about finding the right fit—a mutual match where YOU decide if a company is right for you.

Join us for an empowering session designed to equip candidates with the skills and mindset to ace their interviews. Our discussion will go beyond the typical interview tips and tricks, focusing on strategies to shift from a passive to an active stance and flip the script during the interview process.

Moreover, we'll delve into research-backed strategies employed by leading tech companies to support their employees effectively. By understanding these practices, you'll not only excel in interviews but also set yourself up for success in the workplace. From fostering a culture of collaboration to promoting continuous learning and growth, you'll gain insights that will empower you to thrive in your future tech career.

Don't miss this opportunity to gain the confidence and skills needed to navigate job interviews with ease. Whether you're a seasoned interviewee or preparing for your first technical interview, this session is tailored to help you succeed. Join us and take the first step towards securing your dream tech job.

Presenters: Linda Calvin (Reboot Representation), Jannie Fernandez (Reboot Representation)
Birds of a Feather

Diversity Includes Disability
Location: Pacific A

According to the most recent Computing Research Association Taulbee Survey, about 4.1% of undergraduate computing students and less than 2% of computing masters and PhD students receive disability accommodations from their universities. Computing students with disabilities can feel isolated and may not know other disabled students. To address this isolation and to increase accessibility awareness, universities, broadening participation projects, and employers should actively be thinking about accessibility as part of their work related to equity and inclusion.
This Birds of a Feather session will bring together people who have a disability or who are interested in supporting individuals with disabilities in computing education or careers. The goal of the session is to build community and to learn from each other about strategies for achieving success and ensuring that computing fields are welcoming and accessible to individuals with disabilities.

The session will begin with brief introductions from the presenters and attendees. The session will include information about internships, mentoring, and career development opportunities for students with disabilities as well as resources for educators and employers who would like to be more welcoming and accessible to individuals with disabilities.

There will be a brief overview of relevant topics and large group discussion through which we will hone in on topics to be discussed in small groups. Topics discussed could include: accessibility in computing education, disclosing disability status in interviews, recruiting and retaining employees and interns with disabilities, and including people with disabilities in broadening participation activities. Presenters will spread out amongst the smaller groups to facilitate discussion. The session will conclude with report outs from

the smaller groups and ways to stay connected after the conference.
The target audience includes students and professionals with disabilities as well as faculty, industry representatives, and professionals interested in supporting individuals with disabilities in their education or career.

The organizers include people with disabilities and the leaders of AccessComputing and AccessCSforAll, projects that work nationwide to increase the participation of individuals with disabilities in computing education and careers. Through this work, they regularly interact with a variety of stakeholders interested in this topic including people with disabilities, computing educators, disability service professionals, and computing employers.

Presenters: Brianna Blaser (Access Computing University of Washington DO-IT Center), Richard Ladner (University of Washington), Raja Kushalnagar (Gallaudet University)

BIRDS OF A FEATHER

Introducing Minority Serving - Cyberinfrastructure Consortium. Where Strength in Numbers and Power of Community is Present

Location: Pacific A

The Minority Serving - Cyberinfrastructure Consortium (MS-CC) is a coalition of Historically Black Colleges and Universities (HBCUs), Tribal Colleges and Universities (TCUs), Hispanic-Serving Institutions (HSIs), and the broader community of Minority-Serving Institutions (MSIs) working together to ensure our institutions have the technology, resources, and funding needed to set our students and faculty up for success. We want to discuss how to bolster research; improve faculty and student morale; and ensure researchers from HBCUs, TCUs, HSIs, and the broader community of MSIs contributing to and collaborating on a national and global research level. To support those goals, we focus on Campus IT and research. IT for research is about having the right technology and tools, as well as training and retaining your IT workforce. MS-CC is committed to expanding and improving research computing infrastructures to institutions with minority-serving missions. We aim to promote research conducted at the campus level and foster collaborations between institutions. An additional focus has been in the development of academic research science drivers The MS-CC in partnership with Internet2 received over $20.5M in funding from the National Science Foundation to support this vision (OAC awards #2137123 and #2234326). Please join two members from the MS-CC Leadership Council to learn more about the MS-CC's work in supporting students and faculty by ensuring their access to the tools and resources they need to pursue and achieve their research aspirations.
Presenters: Urban Wiggins (University of Maryland Eastern Shore Minority Serving - Cyberinfrastructure Consortium), Tiara Cornelius (University of Maryland Eastern Shore), Jason Cornelius (University of Maryland Eastern Shore)

TECH TALK

3:00 PM - 4:00 PM

Measuring Impact of Technology Outcomes That Make for Fair, Equitable, and Inclusive Global Products

Location: Pacific D

This workshop will share insights and methodologies that Google's Product Inclusion and Equity team are deploying to help identify and measure inclusion and equity within products. We will review frameworks and approaches, in addition to understanding publicly available tools such as Skin Tone Research with MST Scale, https://skintone.google/. Dalan leads the Data & Insights team that is responsible for

developing, implementing, and delivering on Google's equity strategy, advancing the company's long-term commitment to help drive equitable outcomes for all.
Presenter: Dalain Williams (Google)

4:00 PM - 4:30 PM
Afternoon Break

4:30 PM - 5:45 PM
Panels, Workshops & Presentations

Empowering Black Girls in Computing: The Essential Role of Social Capital
Location: Pacific C

"Empowering Black Girls in Computing: The Essential Role of Social Capital" is a 30-45 minute interactive fireside chat between Google's Global Community Programs Lead and the Partnerships & Operations Manager for Code Next (moderator). This engaging discussion will flow through the following steps:

(13 min) Introduction:
Introduction of Imani and Peta and an overview of their current roles/work.
Prompt for the audience: Introduce yourself to the person(s) sitting next to you and share what your current role/work consists of.

Expose the extent of Black women's underrepresentation in STEM fields, emphasizing the stark situation in the tech sector.

Moderator gives background on the longitudinal study that led to the publishing of the ACM Research paper, "The Important Role Social Capital Plays in Navigating the Computing Education Ecosystem for Black Girls". Also frame the urgency and relevance of the topic.

(5 min) Understanding the Challenges & Barriers:

Dissect the systemic roots of this problem: prejudice, biased policies, and restricted access to quality education and supportive communities.
Delve deeper into how disparities in social networks negatively impact Black women in tech specifically.

(6 min) Social Capital: The Key to Unlocking Potential

Illuminate the transformative power of social capital in creating opportunities, pathways, and a sense of belonging for Black women.
Describe how the Code Next program cultivates and expands social capital for participants, especially young Black girls.
Analyze case studies, showcasing programs designed to empower and equip Black women for success in tech.

Prompt for the audience: With the same person(s) you introduced yourself to, answer this question: How has mentorship and social support played a pivotal role in your career journey?

(6 min) Success Stories and Call to Action

Spotlight one or two participants in the Code Next program to highlight their experiences and growth through social capital development.

Broader Discussion with moderator and lead: How can companies and the tech community at large foster environments where Black women's social capital grows organically?

Call to Action: Encourage the audience to consider actionable steps for supporting Black women in STEM.

(15 min) Audience Q&A: Allow time for audience questions to deepen the discussion.

Presenters: Peta-Gay Clarke (Google, Pace University) Imani Jennings (Code Next, Google)

A Doctoral Scholars Network to Build Student Competencies

Location: Pacific C

Computing fields are one of the most ubiquitous and yet least diverse academic fields. The number of domestic graduates with advanced degrees who identify as either ethnically or racially diverse are insufficient to meet current and future national needs (National Academies of Sciences, 2019). The Doctoral Scholars Network (DSN) (Rivera, Gates, Villa, & Morreale, 2023) is a multi-institutional mentoring network initiative led by the Computing Alliance of Hispanic Serving Institutions (CAHSI). The DSN aims to provide support structures for doctoral students in computing who identify as either: African American, Hispanic, Native American (AHN), first-gen, or female. The DSN builds a sense of community through virtual meetings that engage scholars in activities that develop them in four core areas: a) social b) personal, c) professional, and d) academic skills.

The goals of the workshop are to: (1) promote the DSN model and practices and (2) engage participants in activities that elucidate how the DSN deliberately develops students' skills and competencies. The suggested audiences for the workshop are students entering doctoral programs, those who are in their final year of the program, and faculty who have interest in supporting doctoral students. The workshop activity will include how to submit competitive fellowship/job-application packets.

Presenters: Ann Quiroz Gates (University of Texas at El Paso Computing Alliance of Hispanic-Serving Institution), Shiva Darian (University of Texas at El Paso, CAHSI)

Broadening Participation in Computing by Designing Hackathons that Engage Local Communities

Location: Pacific C

Hackathons are "fun" events where participants collaborate to build technical projects addressing real-world problems during a focused time sprint. Hackathons also have additional benefits by giving participants access to expert-led workshops, mentorship sessions, and guest speaker presentations. However, barriers such as perceived shortfall of technical skills, lack of diversity, or alienation may deter participants from attending these events. Moreover, diverse work environments can generate more inclusive and effective results. Unfortunately, many marginalized groups lack representation in these environments. While there are efforts and programs aimed at broadening participation and diversity in computing, more work needs to be done to address the barriers preventing marginalized groups from entering the tech industry. In this workshop, we will present best practices for designing hackathons to engage broader local communities through six relevant approaches, including providing safe spaces, diverse mentors and judges, and socially relevant project tracks. Participants will engage in guided activities where they will brainstorm ideas and develop action plans to design inclusive hackathons at their home institutions. This workshop is led by a team of undergraduate students who have organized hackathons including OwlHacks (Temple University's annual hackathon), TechTogether-Seattle (the nation's largest initiative to address gender inequalities in the hackathon community), and other on-campus technology organizations including chapters of ACM/ACM-W, ColorStack, and STARS Computing Corps. Our workshop goal is to facilitate a discussion around

designing inclusive hackathons and inspire participants to bring new ideas back to their home institutions to broaden participation in computing.

Presenters: Afifah Kashif (University of Washington), Andrew Tran (Temple University) Salma Aly (University of Washington), Egi Rama (Temple University), Chiku Okechukwu (Temple University)

Creating an Accessible Web Application

Location: Pacific F&G

In this workshop, participants will embark on a journey through the software development cycle, with a strong focus on integrating accessibility from inception to deployment. Accessibility is not an afterthought; it is a crucial aspect of creating web applications that truly serve all users, regardless of abilities.

The workshop will begin by emphasizing the importance of considering accessibility at the beginning of the development process. Attendees will learn how to conduct thorough accessibility assessments during the planning and design phases, ensuring that accessibility requirements are incorporated into the project's scope and objectives. As participants move into the development phase, they will explore practical techniques for writing accessible code. Topics will include HTML, CSS, ensuring sufficient color contrast, proper use of ARIA (Accessible Rich Internet Applications) roles and attributes, and designing for keyboard navigation. Through hands-on exercises, attendees will gain an understanding of how to implement these techniques in their projects.
The workshop will also delve into accessibility testing methodologies, showcasing tools and approaches to ensure compliance with Web Content Accessibility Guidelines (WCAG). Attendees will learn how to conduct manual and automated tests, identify common accessibility issues, and implement fixes to improve the overall accessibility of their web applications. Finally, the workshop will address the importance of ongoing maintenance to sustain accessibility standards over time. Participants will leave with a comprehensive understanding of how to integrate accessibility seamlessly into every stage of the software development lifecycle, creating web applications that are not only functional and innovative but inclusive to all users.

Presenter: Obianuju Okafor (Microsoft, University of Texas at Austin)

Professional and Career Mentoring for Researchers in Industry and Government Labs

Location: Town & Country Ballroom

This workshop is designed to provide attendees from industry and government labs with the opportunity to develop their professional and career skills. It can also benefit those in academia, especially those considering a career move to industry or a government lab. Through discussion with three experienced panelists and a moderator, participants will have an opportunity to gain a better understanding of how to thrive in a research career and advance one’s research and/or management career in industry and government labs. Participants will hear from the panelists about their careers, to set the context, and then engage in direct conversations with panelists tailored to their individual goals and needs.

Presenters: Jaime Moreno (IBM), Taghrid Samak (Meta), Basak Alper Ramaswamy (NASA's Jet Propulsion Laboratory (JPL)), Gonzalo Ramos (NASA's Jet Propulsion Laboratory (JPL))

Superconductive-based Computing in the AI and Quantum Era

Location: Pacific D

With rapid advances in AI and quantum computing, conventional circuits and architectures are increasingly limited in supporting these technologies. This workshop explores how superconductive-based computing promises to revolutionize processing speeds and energy efficiency, which is crucial for advancing AI and quantum processing capabilities. We will discuss innovative neuromorphic and memory architectures tailored for superconductive computing systems, highlighting their potential to enhance data storage, retrieval, and in-memory processing. This workshop offers a unique opportunity to understand the intersection of superconductive electronics with other emerging and novel technologies, setting the stage for future breakthroughs in advanced computing.

Presenters: Timothy Pinkston (University of Southern California), Sasan Razmkhah (University of Southern California), Murali Annavaram (University of Southern California), Tara Renduchintala (University of Southern California)

5:00 PM - 6:30 PM
CMD-IT VIP Reception
(Invitation Only)
Location: Palm 1-3

5:30 PM - 7:30 PM
AccessComputing Evening Reception
(Invitation Only)
Location: California 2-3

5:30 PM - 7:30 PM
JPMorgan Evening Reception (Private Event)
(Invitation Only)
Location: Pacific A & Lookout

8:00 AM - 9:00 AM
CMD-IT VIP Breakfast
(Invitation Only)
Location: Sunset 1-3

8:00 AM - 5:00 PM
Tapia Conference Check-In
(Invitation Only)
Location: Town & Country Foyer

9:00 AM - 9:30 AM
Welcome & Announcements
(Invitation Only)
Location: Town & Country Ballroom

9:00 AM - 10:30 AM
Ken Kennedy Distinguished Lecture
(Invitation Only)
Location: Town & Country Ballroom

Maintaining the Focus on Diversity, Equity, Inclusion, and Accessibility (DEIA)
The recent Supreme Court ruling prohibiting the use of race as a factor in admission decisions by colleges and universities has had a significant impact on the admissions process for higher education. This decision is also impacting diversity programs in industry. This comes at a critical time when diversity is critical to the field of computing to provide innovations that impact the whole of society and the needed workforce to continue forward progress in the field. The goal of this Ken Kennedy Distinguished Panel is to discuss the current impact of the Supreme Court ruling and identity strategies to continue the focus on Diversity, Equity, Inclusion and Accessibility.

BIOGRAPHIES

Dr. Ann Quiroz Gates is the Senior Advisor to the Provost on Strategic STEM Initiatives at the University of Texas at El Paso. She holds the AT&T Distinguished Professorship and served as the Chair of the Computer Science Department (2005-2008 and 2012-2020) and Associate VP of Research and Sponsored Projects (2008-2012). Gates is the Executive Director of the Computing Alliance for Hispanic-Serving Institutions (CAHSI), one of NSF's eight National INCLUDES Alliances that promote the importance of inclusion and equity in advancing innovation and discovery. She also directs the NSF-funded CyberShARE Center of Excellence that advances interdisciplinary education and research. Gates was a founding member of the NSF Advisory Committee for Cyberinfrastructure and served on the Board of Governors of IEEE-Computer Society 2004-2009. Gates was a member of the Naval Research Advisory Committee (2016-2018), AAAS Board appointed Committee on Opportunities in Science (2014-2017), and past member of the Computer Science Accreditation Board (2011-2013). Gates received the 2015 Great Minds in STEM's Education award, the CRA's 2015 A. Nico Habermann Award, the 2010 Anita Borg Institute Social Impact Award, and the 2009 Richard A. Tapia Achievement Award for Scientific Scholarship, Civic Science, and Diversifying Computing. She was named to Hispanic Business magazine's 100 Influential Hispanics in 2006 for her work on the Affinity Research Group model.

Dr. Elizabeth H. Simmons is UC San Diego's Executive Vice Chancellor. She is the institution's second-ranking executive and serves as chief academic officer, responsible for policies and decisions relating to all academic programs and curriculum, instructional support programs, as well as faculty appointments and performance. Simmons is passionate about advancing the goals of UC San Diego's strategic plan, which emphasizes excellence in education, research, and public service and the commitment to equity, diversity, and inclusion. Simmons is also a Distinguished Professor of Physics at UC San Diego. As a theoretical high-energy physicist, her research focuses on the origins of the masses of elementary subatomic particles, especially the top quark.

Dr. Valerie Taylor is the Director of the Mathematics and Computer Science

Division and a Distinguished Fellow at Argonne National Laboratory. Her research is in the area of high performance computing, with a focus on performance analysis, modeling and tuning of parallel, scientific applications. Her current work is on energy efficient methods. Prior to joining Argonne, she was the Senior Associate Dean of Academic Affairs in the College of Engineering and a Regents Professor and the Royce E. Wisenbaker Professor in the Department of Computer Science and Engineering at Texas A&M University. In 2003, she joined Texas A&M University as the Department Head of CSE, where she remained in that position until 2011. Prior to joining Texas A&M, Valerie Taylor was a member of the faculty in the EECS Department at Northwestern University for eleven years. She is also the CEO and President of the Center for Minorities and People with Disabilities in IT (CMD-IT). Valerie Taylor is an IEEE Fellow, ACM Fellow, and AAAS Fellow. She is also the PI of the NSF BPC LEAP Alliance, which is focused on a data-driven approach to increasing diversity in the professoriate in computing.

10:30 AM - 3:00 PM
Career Fair
Location: Golden State

10:45 AM - 11:45 PM
Empowering Designer-Developer Collaboration through Annotating for Accessibility
Location: Golden State

In this session, we will focus on empowering designers to effectively communicate accessibility requirements to developers through the use of annotations. Participants will learn how to annotate their designs with clear and concise accessibility guidelines, making it easier for developers to understand and implement accessible features. During the session, we will cover best practices for creating accessibility annotations, including providing detailed descriptions of interactive elements, specifying color contrast requirements, and indicating keyboard navigation considerations. By emphasizing the importance of collaboration between designers and developers, this session aims to bridge the gap and ensure that accessibility is seamlessly integrated into the development process. Participants will leave with practical strategies and techniques to enhance the accessibility of their designs and facilitate smoother communication with developers. This session will be highly beneficial in promoting accessibility awareness and fostering a collaborative environment between designers and developers. It's a great opportunity to empower both parties and create more inclusive digital experiences. Presenter: Jennifer Patterson (BNY Mellon)

BIRDS OF A FEATHER

10:45 AM - 11:45 AM
Evaluation of the BPC LEAP Alliance: An Application of Culturally Responsive Ecological Systems Theory
Location: Palm 4 – 6

The goal of the NSF BPC LEAP Alliance is to address the broadening participation challenge of increasing the diversity of the future leadership in the computing professoriate at research universities with the aim of increasing diversity across the field.

Focused on four communities that are historically underrepresented in computing (African Americans; Hispanics; Native Americans/Indigenous Americans; and Persons with Disabilities), the purpose of the LEAP Alliance is to increase faculty diversity in computing at research universities by three main approaches: -Increase the diversity of PhD graduates from the institutions that are the top producers of computing faculty -Increase the exposure of academic careers at the institutions that already have good diversity in their PhD graduates -Increase the retention of diverse undergraduate students

at the institutions who send students to graduate school that go on to be faculty Because it can take many years to determine if the long-term goal (i.e., diversifying the computing professoriate) has been achieved, the evaluation model includes various metrics to assess incremental progress toward the goal. Utilizing Bronfenbrenner's ecological systems theory (1977) and a culturally responsive evaluation lens, this session will engage the audience in a discussion of the evaluation process and how it has evolved over 7 years. Based on ecological systems theory in this context, the LEAP participants' professional development and outcomes are influenced by 5 interconnected environmental systems*. We will share strategies for applying these ecological systems in a culturally responsive evaluation model and theory of change. Chronosystem, Macrosystem, Exosystem, Mesosystem, Microsystem
Presenters: Denice Hood (University of Illinois at Urbana-Champaign) Santiago Ospina Tabares University of Illinois at Urbana-Champaign)

10:45 AM - 11:45 AM
Faculty-Staff Collaboration and Continuity for Equitable Recruiting and Retention
Location: Pacific D

Improving diversity in student recruiting and retention (and therefore in the computing professoriate) cannot be "outsourced" to staff: close partnership is required with one or more faculty members, ideally who serve in this role for several years. From the perspectives of two public flagship research universities, we will discuss why both partnership and continuity are important in this work, and our experiences over several years implementing these observations. Our experience may be of interest to staff, students, and faculty involved in graduate admissions, recruiting, and retention at research universities; officials of government agencies that support programs intended to broaden participation in computing; and those who are interested in this topic and would like to become more involved in diversifying admissions at their home institutions, or recruiting and retention in business settings.

Presenters: Armando Fox (UC Berkeley), Audrey Sillers (UC Berkeley), Ed Lazowska (Paul G. Allen School of Computer Science & Engineering, University of Washington) Elise Dorough (Paul G Allen School of Computer Science & Engineering, University of Washington)

10:45 AM - 11:45 AM
Integrating Diversity, Social Justice, and Intersectionality in Program Evaluation to Broaden Participation in Computing (BPC): Insights from BPC Alliance Representatives
Location: Pacific E

In our quest to broaden participation in computing, addressing diversity, intersectionality, and social justice within program evaluations is paramount. As program evaluation plays a significant role in advancing the mission of broadening participation, it is imperative for evaluators to highlight the unique challenges faced by marginalized communities in computing and inform targeted interventions to promote inclusivity and equity.

The panel presents representatives of four National Science Foundation (NSF)- funded Broadening Participation in Computing (BPC) alliances: CRA-WP, AccessComputing, Institute for African American Mentoring in Computing Sciences (IAAMCS), and Alliance Supporting Pacific Impact through Computational Excellence (ALL-SPICE). The panel will provide an invaluable opportunity to discuss the practical applications of program evaluation in advancing these principles within their efforts in broadening participation in computing. Each panelist brings a wealth of experience and expertise in their alliance's program evaluation, recruitment strategies, and community engagement efforts, all of

which contribute to promoting representation and accessibility in the field. Through engaging discussions and shared insights, the panel will engage the computing community in understanding and embracing the importance of program evaluation as a catalyst for advancing diversity, equity, and inclusion. Ultimately, the panel aims to drive meaningful change and fostering a more inclusive computing community.

Panel Moderator: Eniola Idowu (Computing Research Association)

Presenters: Kinnis Gosha (Morehouse College), Brianna Blaser (AccessComputing University of Washington), Rylan Chong (Chaminade, University of Honolulu)

10:45 AM - 12:00 PM
Sage Edge Computing Platform and Self-Learning AI at the Edge
Location: Sunset 1-3

This session will first introduce Sage, a distributed edge computing cyberinfrastructure, designed to support cutting-edge AI applications for science. It provides the full suite of hardware and software for running AI algorithms with modern sensors such as cameras, RADARs, and LiDARs, and for user access to data for analysis. Sage is deploying cyberinfrastructure in remote environments in California, Montana, Colorado, Oklahoma, and Kansas, in the National Ecological Observatory Network, and in urban environments in Illinois and Texas. Within Sage, the presenter will talk about some computer science challenges in managing resources for AI applications, which can lead us to problems in task scheduling and optimization in edge computing.

The second half of the session will focus on self-supervised learning for edge computing. In the realm of deploying machine learning (ML) algorithms on edge devices, a plethora of challenges surfaces, ranging from compute resource limitations to the nuanced intricacies associated with acquiring dynamic data distributions. The majority of extant ML algorithms implemented on edge cyberinfrastructures undergo training with datasets that inadequately capture the true essence of the data streams collected at the edge. We will discuss the viability of novel self-supervised learning algorithms to effectively characterize insufficiently curated, imbalanced, and unlabeled datasets in the context of edge computing, addressing the unique challenges posed by edge environments.

The audience attending this tutorial will gain insights into the importance of Sage as an edge platform for AI. Likewise, attendees will also be able to know how self-supervised learning can overcome the limitations of traditional approaches, enabling better utilization of real-world edge data streams.

Presenters: Dario Dematties (Northwestern University), Yongho Kim (Argonne National Laboratory)

12:00 PM - 1:15 PM
Faculty- Only Lunch
Location: Pacific A

12:00 PM - 1:15 PM
General Lunch & Networking
Location: Town & Country Ballroom

LIGHTNING TALK

1:30 PM - 1:45 PM
Optimizing AI for the Real World: Faster and Carefree
Location: Pacific C

Imagine if AI could not only think, but also react to tasks more quickly without compromising on quality—what could that mean for the future of technology? This session introduces speculative sampling, a method that can potentially lead to more efficient and effortless AI systems. We'll

examine its integration with the ReAct paradigm, a prompting paradigm designed to solve real-world problems. Our research suggests that by using speculative sampling, AI can work faster—up to 2.62 times quicker—while still maintaining its sharp reasoning skills.

Presenters: Han Xu (University of Illinois Urbana-Champaign), Xingyuan Wang (Meta Platforms, Inc.)

1:30 PM - 2:30 PM
Blacks in Computing Community
Location: Pacific C

According to the 2022 Taulbee survey, there are 103 (1.7%) Black CS-tenured and tenure-track faculty members, 29 (1.3%), 37 (3%), and 37 (2.4%) Full, Associate, and Assistant Professors and 233 (1.6%) black students enrolled in PhD programs in Computer science in the U.S. PhD granting institutions. While the most recent Census data shows that Black or African Americans account for 12.1% of all US citizens. The representation of Black people in higher education and academia in computing is disproportionate to their representation in society. Currently, the University of Florida (UF) has the largest cohort of Black PhD students in computing which is approximately 7% of all computing PhD students, The University of North Carolina at Charlotte (UNCC) currently has 7, which is probably the 2nd largest cohort. This distribution implies isolation of students where an institution and even a state could have just one and possibly no Black PhD students. As education is fundamentally a social phenomenon and the universities reflect the societies that encompass them, the lack of representation in higher education directly impacts a Black student's discourses, norms, and expectations. This isolation and lack of representation negatively affects black students' performance, sense of belonging and the desire to pursue and/or complete a graduate degree. The faculty and student presenters of this Birds-of-a-Feather panel attended the 2023 Tapia conference. The students were first-time attendees and were amazed at the diversity of the fellow attendees and presentations. They had never seen so many Black computer scientists: undergraduate and graduate students, faculty and industry representatives. The experience was remarkable. The coming together of diverse minority ethnicities to confront systemic issues in undergraduate, graduate and academia was truly inspiring. However, there was not a common time and location to meet and network with the other black computer scientists during the conference. We look to address this need at the Tapia 2024 conference by having a community event for blacks in computer science. The goal of this community is to address the isolation, lack of community, support and sense of belonging that black computer students and faculty endure in education. The session will bridge the gap between previous Tapia alumni with new attendees to cultivate a community of support, belonging, mentoring and collaboration. In keeping with the conference goals: we plan to celebrate the diversity that exists among the Black community in computer science and recognize attendees' milestones and accomplishments; provide access for connecting with peers, mentors and potential sponsors; afford safe spaces for both the solicitation and offering of advice and facilitate the sharing of personal journeys that inspire. Attendees will be able to put faces to names and establish connections and networks of support that can persist through their academic and professional journeys.

Presenters: Eric Betties (University of North Carolina at Charlotte), Walter Kirkland (University of North Carolina at Charlotte), Aniyah Tucker (University of North Carolina at Charlotte), Michelyn Odei (University of North Carolina at Charlotte), Dale-Marie Wilson (University of North Carolina at Charlotte)

1:30 PM - 2:30 PM
Neurodiversity and Inclusivity - a dialogue on EY's approach to developing a model of support for neurodivergent candidates and employees
Location: Pacific D

In this session, panelists will discuss the journey EY is on to develop a holistic model for neurodiversity and inclusion at EY. Presenters will speak to EY's approach to developing a model of support for neurodivergent candidates and employees touching on both strategic direction and tactical execution. The session will also invite dialogue with attendees on the topic.

Panel Moderator: Sean Baker (EY)

Presenter: Cindy Lazard-Hunt (EY)

1:30 PM - 2:30 PM
Parallel Programming in a Nutshell
Location: Pacific E

Parallel Programming has become ubiquitous in the modern computing landscape. Whether it is speeding up the runtime of a simple loop by using multiple threads or using multiple processors for computations across a network, some kind of parallel programming is being used to speed up computations and/or optimize modern algorithms. Because Parallel Programming has become so prevalent in the area of computing, understanding how to develop software that takes advantage of parallelism is an extremely important skill for computer scientists. This presentation introduces the topic of Parallel Programming, giving a high-level overview of the different kinds of parallel programs (e.g. shared vs. distributed memory) and the most important things to consider when programming in parallel. We will discuss some common pitfalls of parallel programming in order to understand when it should and should not be used for a particular algorithm. The presentation concludes with a demonstration of parallel implementations of several common algorithms.

Presenter: Kristi Belcher (Lawrence Livermore National Laboratory)

1:30 PM - 2:30 PM
There's no GPT for this: Graduate School and What Lies Beyond
Location: Palm 1 – 3

Graduate school is tough. Why complete it? What can be gained in the process? What can be done with advanced degrees? Whether you are a doctoral student (re)evaluating career plans, a master's student deciding to proceed into a doctoral program, an undergraduate considering graduate school, or a postdoc planning your next move, these are important questions to ask, and you might be surprised by some of our panelists' answers. Our doctorate-holding panelists include early-to-mid career faculty and research scientists with experience across industry and government institutions. They will share their unique perspectives answering these questions from the context of their own diverse backgrounds and journeys, as well as challenges they encountered (expected and unexpected), support and solutions they found (and still employ), and their advice from 20/20 hindsight. Faculty, industry and later-career-stage professionals in attendance are encouraged to participate or simply take notes for their own mentoring. All attendees will have the opportunity to ask questions and connect with the presenters. Overall, the goal of this panel is to equip, encourage, and prepare you, as you consider fulfilling computing career paths including the pursuit of advanced degrees (or not).

Panel Moderator: Marquita EllisStaff (IBM Research)

Presenters: Aditya Devarakonda (Wake Forest University), Giulia Guidi (Cornell University), Charles Mackin (IBM

Research), Moustafa Abdel Baky (NASA, Linea)

1:45 PM - 2:00 PM
Quantum-Resilient Video Encryption: Safeguarding Future Transmissions
Location: Pacific C

The rapid advancement of digital communication, especially in video transmission, necessitates robust encryption methods to protect data integrity and security. Traditional encryption methods are increasingly vulnerable due to the rise of quantum computing. This article introduces a Hybrid Quantum Video Encryption Framework that merges quantum encryption's strength with classical transmission techniques, enhancing security against quantum threats. By employing a novel encryption method, this framework significantly advances secure video transmission. Through comprehensive simulations and statistical analysis, the proposed method demonstrates superior performance over existing frameworks, offering a significant leap in the field of secure video transmission.

Presenter: Yashas Hariprasad (Florida International University)

2:00 PM - 2:15 PM
Getting Started with Apache Spark in Microsoft Fabric
Location: Pacific C

Apache Spark is a powerful parallel processing framework designed to enhance the performance of big data analytics applications. It achieves this by supporting in-memory computing, which significantly speeds up data processing compared to disk-based approaches. In addition, Spark seamlessly integrates with various programming languages, allowing you to manipulate distributed data sets without being restricted to map and reduce operations. Microsoft Fabric Runtime is an Azure-integrated platform powered by Apache Spark. It serves as a robust foundation for executing and managing data engineering and data science experiences. By combining internal and open-source components, Fabric Runtime provides a comprehensive solution for large-scale data processing and analytics tasks. Fabric Runtime incorporates platform-specific optimizations, enhancing both the Spark engine and Delta Lake. Notable features include nearly 100 built-in query performance enhancements and intelligent cache capabilities.

Presenter: Sricheta Ruj (Microsoft)

2:45 PM - 3:45 PM
Advancing Social Media Discourse: Natural Language Processing (NLP) and Responsible AI Practices
Location: Pacific C

Understanding the profound influence of AI on social media is paramount for promoting fairness and justice in the digital landscape. As AI algorithms increasingly shape content curation, recommendation systems, and user interactions, it is essential to consider their impact on diverse communities. The deployment of AI in social media can inadvertently perpetuate biases, reinforcing existing inequalities. Therefore, a comprehensive study of its impact is crucial to identify and rectify potential disparities, ensuring that these technologies contribute to a more equitable online environment. My research and practice is focused on mitigating biases, fostering inclusivity, and upholding principles of fairness and justice on social media contents. In this presentation, I will showcase the latest advancements featured in my upcoming publication of the fourth edition of "Natural Language Processing for Social Media," set to be released by Springer publishing company. Given the rapid advancements in AI, particularly the emergence of Large Language Models (LLMs), I will explain the ethical implications of AI in social media networks. DEI emerge as pivotal components when examining the impact of AI on social media. It goes beyond

demographic categories, also considering diverse backgrounds, experiences, skills, and expertise.

Presenter: Anna Farzindar (Loyola Marymount University)

2:45 PM - 3:45 PM
Disabled In Computing - a New Community for Faculty and Graduate Students with Disabilities
Location: Palm 1 – 3

In this BoF session, we will introduce Disabled In Computing, a new community founded in July 2023 to address the dearth of inclusive disability practices in computing academia. Disabled In Computing is a safe meeting zone for disabled, chronically ill, neurodivergent, and/or mentally ill graduate students and faculty in computing (allies are welcome).

Organizers: Prof. Shiri Dori-Hacohen, founder of Disabled in Computing (disabled+ill+neurodivergent); Prof. Fabricio Murai (neurodivergent).

Background:
A recent NSF DCL (23-160) highlighted the urgent need for inclusive environments to encourage broad participation of scholars and trainees with disabilities, with sharp drop offs from bachelors to graduate degrees (59% drop) and from graduate to faculty (50% drop).

Disabled In Computing was founded to amplify the voices of those in computing research, offer peer support, and break through the intense isolation of being disabled in academia. Disabled In Computing is a response to a growing disillusionment with academic DEI / broadening participation agendas that overlook and neglect disabled researchers. Built by and for disabled folks in academia, Disabled in Computing was born of our founder's lived experience as a disabled PI in the computing space. We are actively seeking to hear the challenges our constituents face, so we can better support a culture of disability inclusion and advocate for change.

Given the culture of casual ableism and intense disability stigma in academia, our community is open to all, and we do not - nor will we ever - require members to make any disclosures about whether, or which, disability (or disabilities) they have. We use the identity-first terminology of "disabled" deliberately: to acknowledge disability community, in solidarity with our most marginalized members, and as a mechanism to reduce stigma. However, members need not identify with the term “disabled,” whether openly, or at all; many other phrases are used in practice, and all are welcome. Finally, we acknowledge the intertwined history and complex intersections of disability, racial/ethnic minoritized groups, and queer identities, and the discrimination these groups have all faced. We are here to build a safer, more inclusive community for disabled people and beyond.

BoF Session Agenda:

This BoF will be a meeting opportunity for folks with disabilities; and for those exploring the topic, or interested in learning more and supporting disability inclusion.

The agenda for the proposed BoF session is as follows:

1.A brief introduction by Prof. Dori-Hacohen, presenting the Disabled In Computing initiative. Slides will include a QR code for sign-up; and cover aims and vision (5-10min).

2. Roundtable-style introductions along with an icebreaker question (5-10min).

3. Open networking and smaller conversations (20-30min, ending ~40-45min after event start time). Assuming 10-40 participants, we are tentatively planning semi-structured "speed dating"-style mini-

chats. However, if more or less participants arrive in practice (i.e., 40), we will opt for a more loose & unstructured networking format in real time.

4. Back to the larger group for an open forum discussion, where attendees can share their lived experiences; questions, comments, and concerns; and ideas or requests for future programming (10-15min).

2:45 PM - 3:45 PM

Guarding the New World: Artificial Intelligence's Role in *Cybersecurity*

Location: Pacific D

Cybersecurity impacts every industry, and both defenders and attackers are working to adopt the latest advancements in artificial intelligence (AI) that are shifting the paradigm faster than ever. These evolving landscapes of AI and Cybersecurity raise questions for businesses and individuals on ethics, strategies, and implementation costs. This talk will explore the symbiotic relationship between AI and Cybersecurity and how they push developments in research, platforms, tools, and applications across both sectors. Join RTX for a discussion on the direction these two industries are moving in and how the aerospace and defense sectors are adopting these new and emerging technologies. In addition to a brief overview of the AI and cybersecurity relationship timeline, the presenters will showcase some basic AI and cybersecurity concepts that will culminate with the demonstration of some popular tools that participants should be aware of. This talk will not only expose the audience to the exciting new frontier of AI and cybersecurity, but it will also feature world-class engineers and scientists eager to share technological and career advice.

Presenters: James Poirier (Raytheon Technologies), Jose Romero-Mariona (Raytheon Technologies), Evangelyne Le (Raytheon Technologies)

2:45 PM - 3:45 PM

Learning to Serve More Populations at PWIs

Location: Pacific A

The contributions of Historically Black Colleges and Universities (HBCU) and Hispanic Serving Institutions (HSI) for broadening the participation of students in computing, information science, and engineering fields are indisputable; however, the role of Primarily White Institutions (PWI) in this effort should be neither undervalued nor underestimated. In this panel, we speak to both early-career and established scholars in computing fields who work, or established successful careers, at PWI. The panelists share their experiences in navigating at PWI and recommend strategies that institutional and departmental leaders can adopt to improve recruitment, retention, completion, and employment outcomes for all students at PWI, but particularly Black, Latino, and Indigenous students in CISE. Panelists will also discuss practices and strategies in undergraduate and graduate education that can be deployed to improve diversity, graduate education, and research experiences at PWI, and impact local, state, and national outcomes for women and minorities in STEM.

Panel Moderator: Faye Jones (Florida State University)

Presenters: Christy Chatmon (Florida State University), Manuel A. Pérez Quiñones (University of North Carolina at Charlotte), Jamie Payton (Temple University), Wanda Eugene (My Deep Designs, Inc.), Brianna Posadas (Virginia Tech)

2:45 PM - 3:45 PM

Redefining 'Weak' Links: A New Perspective on Cybersecurity's Human-AI Dynamic

Location: Pacific E

This presentation delves into the complex interplay between human and artificial intelligence (AI) vulnerabilities within the cybersecurity domain. It begins by acknowledging the dual nature of the human element: often deemed the weakest link due to truthfulness, a lack of adherence to security best practices, and susceptibility to social engineering attacks, yet undeniably crucial for its role in creating AI and driving innovation. This paradox underscores the importance of enhancing cybersecurity awareness and fostering a culture of shared responsibility.

On the flip side, AI holds the promise of transforming cybersecurity through its rapid, accurate, and ostensibly impartial capabilities, such as anomaly detection and threat response automation. However, AI's potential is tempered by its limitations, including a propensity for failures with significant repercussions. These shortcomings highlight issues of AI reliability, the opacity of decision-making processes, and the challenges posed by the unpredictable effectiveness of neural networks and artificial intelligence, which remain not fully understood.

Furthermore, AI's application is constrained by its lack of repeatability or provenance, susceptibility to biases, and potentially limited accessibility for neurodivergent individuals or those with special needs. Both humans and AI are vulnerable to manipulation, such as social engineering, indicating a shared susceptibility to persuasion and deceit. Our discussion focuses on key questions to explore the synergy between human insight and AI in bolstering cybersecurity efforts, including: How can we integrate human intuition and AI capabilities to enhance cybersecurity measures effectively? What measures can be taken to design AI systems that minimize human error while addressing the challenges of AI unpredictability and lack of transparency? What ethical frameworks are necessary to ensure a balanced collaboration between humans and AI in cybersecurity, fostering an environment of transparency, trust, and mutual accountability?
Through examining real-world vulnerabilities of both humans and AI, our goal is to catalyze a nuanced dialogue on leveraging their respective strengths to forge a more resilient cybersecurity framework. Highlighting the critical need for transparency and trust in AI systems, we aim to inspire a collective movement towards a more secure, inclusive, and ethically grounded digital future. This exploration not only addresses current challenges but also paves the way for future research avenues, enriching our understanding and approach to cybersecurity in an increasingly interconnected world.

Presenters: Tia Pope (North Carolina A&T State University), Deborah Kariuki (University of Maryland, Baltimore County)

2:45 PM - 4:00 PM

Time for Action- A Roadmap to Success for Minority Employees in Computing

Location: Palm 4 – 6

As a member of a company, an institution, the government, or just any organization, most people struggle to stand out and make a difference that will reap benefits for both themselves and their stakeholders. This is especially true for minorities, particularly those in STEM fields, where the technology landscape is constantly changing, AI is driving innovation, and the competition is fierce. While diversity initiatives are put in place to promote equity and inclusion, minorities still lag when it comes to attaining positions of authority and receiving appropriate recognition for their work. Despite this fact, there are a number of effective strategies that can be taken to ensure that one’s efforts are meaningful and transformative, get stakeholder attention, and highlight the excellence in contributions minorities can make in their respective

fields. In this talk, we examine the typical behaviors of an average employee in computing-related careers, identify what matters most to the leaders in an organization, and present a framework of best practices for STEM employees to position themselves in a way that will make them shine and showcase the contributions minorities and others alike can make in the technical fields. At the end of this presentation, participants will be equipped with actionable strategies they can immediately implement to move from being a typical member of an organization to being a key player who makes significant impact in a way that will promote their organization's mission, themselves, and also diversity, especially in the computing field.

Presenter: Valerie Nelson (Training Keys, LLC, E Cyber7 Technologies, LLC)

3:00 PM - 4:30 PM

Career Fair

(Supporter Onsite Interviews Only)
Location: Golden State

4:00 PM - 7:00 PM

Tapia Awards Reception & Celebration

(Supporter Onsite Interviews Only)
Location: Town & Country Ballroom

8:00 AM - 5:30 PM
STARS Celebration
Location: Pacific A - D

8:00 AM - 5:30 PM
AccessComputing
Accessibility in Computer Science
Location: Palm 1 – 3

Companies want engineers that can build accessible technology, because creating an accessible digital world requires people to design and build that world to be accessible. In our community, there's exciting accessibility research being done by computer scientists, and yet many computing students are not being taught about accessibility in their courses. This workshop will give you a crash course on accessibility, expose you to research projects related to accessibility, and help you find ways to build your skills after the workshop ends.

Presenters: Brianna Blaser (AccessComputing, AccessComputing), Maya Mundell (University of Washington), Richard Ladner (Paul G. Allen School of Computer Science & Engineering at the University of Washington) Raja Kushalnagar (Gallaudet University), Stacy Branham (AccessComputing, University of California Irvine)

9:00 AM - 10:15 AM
LEAP Alliance Breakfast & Focus Group
Location: Sunset 1 – 3

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The 2024 CMD-IT/ACM Richard Tapia Celebration of Diversity in Computing Conference is possible because of the tremendous dedication and contributions of many organizations and volunteers from the computing community. We very much appreciate the significant support, time, and excellent input. We extend a sincere thank you to everyone, including our attendees, for making this conference possible

PRESENTER

The Center for Minorities and People with Disabilities in Information Technology (CMD-IT) cmd-it.org

CMD-IT is a non-profit organization whose mission is to create and deliver programs, events, education and research that advance diversity in computing. CMD-IT fosters strong, long-lasting relationships between industry, academia, government, and the underrepresented communities they serve. Through these initiatives CMD-IT increases awareness of the distinctive needs of each of its communities and advocates for the advancement of better environments and practices for the benefit of all.

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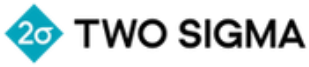

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