ACM New York Celebration of WOMEN IN COMPUTING 2020

Promoting the Academic, Social, and Professional Growth of Technical Women in Upstate New York

CANCELED

APRIL 3-4, 2020

Poughkeepsie, NY

Program Schedule

Friday, April 3

12:00-3:00pm Career Fair *(Regency)*

1:00-6:00pm Registration

- **2:00-4:15pm** Workshops
  - *2-3pm, 3:15-4:15pm WS 1:* A Mindfully Agile Path to Employability and Promotability *(Starlight)*
  - *2-4pm WS 2:* Lighting the Path to Kubernetes *(Dutchess)*
  - *2-3pm, 3:15-4:15pm WS3:* Software Development: Myth versus Reality *(Terrace)*
- **4:15-5:15pm** Poster Session *(Palm Court)*
- **5:15-6:45pm** Dinner with Keynote and Welcome *(Regency Room)*
- **7:00-8:00pm** Breakout Session 1: First Timer Research Talks *(Dutchess, Starlight, Palm Court)*
- **8:15-9:15pm** Breakout Session 2
  - *8:15-9:15pm* Panel: What is Graduate School all About? *(Starlight)*
  - *8:15-8:45pm* Diversity Presentation: Developing Competency-Based Online Undergraduate Programs in Computer Science to Benefit Women and Under-Represented Minorities *(Dutchess)*
  - *8:45-9:15pm* Research Talk: Cyber Security Analysis of IoT Footwear *(Dutchess)*
  - *8:15-8:45pm* Research Talk: Designing Anti Bias Interventions *(Palm Court)*
  - *8:45-9:15pm* Research Talk: Understanding the Importance of Information Management in Future Learning Environments *(Palm Court)*
- **9:30-10:30pm** Birds of a Feather Sessions
  - BoF What Does it Mean to Be a Male Ally? *(Dutchess)*
  - BoF 2 *(Starlight)*
  - BoF 3 *(Palm Court)*

10:15pm-12:00am Games and Puzzles and Snacks, oh my!

Saturday, April 4

7:00-9:00am House Breakfast *(Hotel Lobby)*

- **8:00-9:00am** Breakout Session 3
  - *8-9:00am* Panel: My Job is so Cool *(Dutchess)*
  - *8-8:30am* Research Talk: Transforming Big Data for Fitness Use *(Starlight)*
  - *8:30-9am* Research Talk: Exploiting Vulnerabilities within Commercial Drones *(Starlight)*
  - *8-8:30am* Research Talk: Kernelization for the Vertex Clique Cover Problem *(Terrace)*

9:00-9:30am Break with snacks *(Starlight, Dutchess, Terrace)*

- **9:30-10:30am** Breakout Session 4
  - *9:30-10:30am* Panel: Lights, Camera, Action! Creating Technology for Feature Animation *(Dutchess)*
  - *9:30-10am* Diversity Presentation: The Importance of Community for Minority Groups in STEM *(Starlight)*
  - *9:30-10:30am* Diversity Presentation: Moving Towards Wholehearted Living *(Terrace)*

10:30-11:00am Check Out

- **11:00am-12:00pm** Awards and Closing Remarks

12:00pm Grab and Go Lunch

Welcome!

We are thrilled to host the ACM-W New York Celebration of Women in Computing 2020 and excited to be in Poughkeepsie for the first time!

This event is one of the many Celebrations of Women in Computing that is held under the auspices of ACM-W, the Association for Computing Machinery Council on Women in Computing. ACM-W's mission is to support, celebrate, and advocate internationally for the full engagement of women in all aspects of the computing field. You are now part of this growing community of thousands of people worldwide who gather at these ACM-W events, from Canada to Cuba, from New Zealand to the Philippines and India, in the UK, Spain, Sweden, and all across the U.S.

Whether this is your first NYCWiC or your seventh, you're in for a real treat. We have keynote speakers from industry with lots of experience, students who are presenting for the first time, employers at the career fair who want to talk to you! Don't miss the poster session or the workshops or the panels. We have research presentations and game night. It's a very full 24 hours and you should take advantage of every bit of it. Talk at dinner with people you didn't come with. Meet you roommate. All of these people help build your network and our community and that is what NYCWiC is all about!

A fabulous organizing committee, program review committee, career counselor committee, and advisory committee put this conference together. But we've taken it as far as we can. The rest is up to you and what you do with it. As Grace Hopper said:

> *We're flooding people with information. We need to feed it through a processor. A human must turn information into intelligence or knowledge. We've tended to forget that no computer will ever ask a new question.*

So, ask questions. Turn the information you get here into intelligence and knowledge that you'll take back with you.

What information do you want to turn into knowledge? Please, take every opportunity you can to meet new people, hear new ideas, share your ideas, and learn something.

Most importantly though, *ask questions*. You never know what you might learn and you never know what you might teach someone else.

Enjoy the conference!

Jennifer Goodall
NYCWiC 2020 General Chair

KEYNOTE

Inspiring Women Leaders in Tech

Susan L. Cohen, Ph.D.
Vice President, Cloud and Cognitive Deployment at IBM

Dr. Susan L. Cohen, Vice President, Cloud and Cognitive Deployment at IBM, is passionate about Technology, Innovation and Delivery of the highest standard of Information Technology for IBM's clients. During her career at IBM, she has held a variety of management and technical roles across IBM, always focused on delivering business value to our clients. She was recently a member of the Corporate Technical Strategy team, where she led an 'Intrapreneurial' IBM Venture Capital program called 'SPEED' to deliver IBM's innovative technology solutions at a 'start-up' pace. Prior to joining Corporate Strategy, Dr. Cohen was VP of Design and Product Engineering, IBM Systems and Technology Group, where she was responsible for delivery of state-of-the-art Power and Mainframe Enterprise Server solutions. In this role, she enjoyed working at the critical interface between design, solutions and manufacturing to deliver IBM Systems to our clients with high quality and competitive cost. Dr. Cohen started her career at IBM T.J. Watson Research Center working on innovative materials and processing solutions for IBM's leading edge technology products. She received her Ph.D. in Chemistry from Massachusetts Institute of Technology and Bachelor of Arts in Chemistry from Binghamton University.

WORKSHOPS

A Mindfully Agile Path to Employability and Promotability
Friday, 2:00-3:00pm and then again 3:15-4:15pm *(Starlight)*
Jami L. Cotler, *Associate Professor of Computer Science, Siena College*

Lighting the path to Kubernetes
Friday, 2:00-4:00pm *(Dutchess)*
Mark Abrams, *Field Engineer, Rancher Labs*

Software Development: Myth versus Reality
Friday, 2:00-3:00pm and then again 3:15-4:15pm *(Terrace)*
Marissa Bianchi, *Web Developer, Auto/Mate*
Molly Gallagher, *Associate Software Engineer, Auto/Mate*
Shylah Weber, *Senior Software Developer Manager, Auto/Mate*

(Starlight)

Friday, 2:00-3:00pm and 3:15-4:15pm

A Mindfully Agile Path to Employability and Promotability

Jami L. Cotler, *Associate Professor of Computer Science, Siena College*

Employability skills are often used interchangeably with work-readiness. To be work-ready one has to possess attributes sought by employers. The accumulation of soft and technical along with emotional maturity make up employability. This workshop will explore ways to enhance employability and promotability in the tech sector.

(Dutchess)

Friday, 2:00-4:00pm

Lighting the path to Kubernetes*

Mark Abrams, *Field Engineer, Rancher Labs*

Modern software developers must understand micro service architectures and how they are used in containers and container orchestration. In this workshop, you will learn how to build simple container images. We will collaborate on a shared goal and then visualize the results using container orchestration. The workshop will provide lots of hands on experience and active discussion around docker, kubernetes and related technologies.

(Terrace)

Friday, 2:00-3:00pm and 3:15-4:15pm

Software Development: Myth versus Reality

Marissa Bianchi, *Web Developer, Auto/Mate*
Molly Gallagher, *Associate Software Engineer, Auto/Mate*
Shylah Weber, *Senior Software Developer Manager, Auto/Mate*

In college, we had preconceptions about working in software development that were found to be misconceptions after starting our careers. We will share things we learned the hard way, via our varied experiences, such as what really matters when job searching and entering the workforce.

* *In order to participate in this workshop, you need a laptop with access to the internet and Chrome or Firefox browser. Basic command line experience preferred.*

BREAKOUT SESSIONS

Breakout Session 1

Friday, 7-8pm

First-Timer Research Talks *(Dutchess, Starlight, Palm Court)*

Breakout Session 2

Friday, 8:15-9:15pm

Panel *(Starlight)* 8:15-8:45pm

Diversity Presentation *(Dutchess)* 8:15-8:45pm

Research Talks *(Dutchess, Palm Court)* 8:15-9:15pm

Breakout Session 3

Saturday, 8-9am

Research Talks *(Starlight, Terrace)* 8:15-9:15pm

Breakout Session 4

Saturday, 9:30-10:30am

Panel *(Dutchess)*

Diversity Presentations *(Starlight, Terrace)*

Breakout Session 1, Friday 7-8pm

First-Timer Research Talks

(Dutchess)

Finding Ore Using Machine Learning and Artificial Intelligence

Pranita Ramteke, *Student of Information Systems, Marist College*
Bowu Zhang, *Professor of Computer Science, Marist College*

Mining operations create a significant impact on the environment and public health, polluting air and water, and destroying wildlife and ecosystems. We aim to use Machine Learning algorithms to help to identify and locating ore with a goal to reduce the use of human labor and limit the environmental impact on nature.

An Unspoken Barrier to Computer Science Instruction

Elizabeth Thomas-Cappello, *Teacher Newburgh Free Academy & ECHS Marist/Newburgh Partnership Program*

The push for Computer Science instruction in schools neglects a barrier to student success. By comparing ELA results in an Introduction to CS course, it was found that the higher the ELA score, the more successful the student. By incorporating differentiated instructional practices, students who struggle with language skills are more successful in a computer science classroom.

(Starlight)

Generative Adversarial Networks (GANs)

Eleni Kokoris, *4th Year Undergraduate Student, Adelphi University*
Nina Katz-Christy, *3rd Year Undergraduate Student, Harvard University*
Logan Peters, *3rd Year Undergraduate Student, Carleton University*
Yexin Wu, *4th Year Undergraduate Student, University of Maryland*

First proposed by Longfellow et al. in 2014, GANs consist of two neural networks that are constantly pitted against one another in a didactic learning process. While the generator is trained to create fake images, the discriminator is trained to detect these images. Uses for GANs include creating fake datasets, object detection in artificial intelligence, and if used for malicious purposes, bypassing automated authentication systems.

Automated Reductions for the Maximum Independent Set Problem

Alma Thompson, *3rd Year Undergraduate, Hamilton College*
Darren Strash, *Assistant Professor of Computer Science, Hamilton College*

The most successful algorithms for solving the maximum independent set problem on large sparse graphs in practice use data reduction rules. We introduce new data reduction rules generalizing the well-known isolated vertex and folding reductions to sets of vertices in order to aggressively reduce large graphs to a manageable size.

(Palm Court)

An Efficient Data Structure for Groups

Akriti Dhasmana, *Undergraduate, Union College*
Matt Anderson, *Professor of Computer Science, Union College*

This data structure for mathematical groups is modeled on permutation decision diagrams. A concise representation of groups that are an element of abstract algebra can improve the speed and ease at which binary operations like taking union and intersection can be carried out on them. For the purpose of this project, we will only consider an infinite abelian group which can be expressed as the direct product of cyclic groups using the fundamental theorem of finitely-generated abelian groups.

MortalityMinder: Diving into the Causes and Trends of Mortality

Sophie Hannigan, *3rd Year Undergraduate, Rensselaer Polytechnic Institute*
Christina van Hal, *3rd Year Undergraduate, Rensselaer Polytechnic Institute*
Kristin Bennett, *Professor and Associate Director, Institute for Data Exploration and Applications, Rensselaer Polytechnic Institute*
John S. Erickson, *Director of Research Operations, Institute for Data Exploration and Applications, Rensselaer Polytechnic Institute*

We present a four-page interactive application that examines county-level factors that are associated with different trends in mortality. We focus on statewide analyses exploring how mortality rates in the United States have changed from 2000 to 2017. Our emphasis is on deaths due to suicide, overdose, substance abuse, and poisonings.

A Data Center Management Framework for Student Administrators

Katerina Tzannes, *4th year Undergraduate in Information Technology at Marist College*
Edwin Forson, *4th year Undergraduate in Information Systems at Marist College*

As students hired as systems administrators for a research datacenter, we discuss the experience, lessons learned, and how we approached recovery of critical resources. We discuss unique challenges while operating a datacenter, such as after recently experiencing a disaster, we implemented a checklist in our datacenter framework to mitigate future problems.

Breakout Session 2, Friday 8:15-9:15pm

(Starlight)

Panel, 8:15-8:45pm

What is Graduate School all About?

Tiffany Hart William, *Manager of Graduate Studies, CEHC, University at Albany*
Ellie Jung, *incoming Information Science PhD student, CEHC, University at Albany*
Casimer DeCusatis, *Ph.D., Assistant Professor, Marist College*
Jennie Q. Colabella (Moderator), *Computer Science Department, Vassar College*

What is grad school like? Why should I go to grad school? How do I get into grad school? Panelists will use their own experience to help any questions that students might have about applying and attending graduate school.

(Dutchess)

Diversity Presentation, 8:15-8:45pm

Developing Competency Based Online Undergraduate Programs in Computer Science to Benefit Women and Under-Represented Minorities

Carolyn Sher-DeCusatis, *Course Instructor, College of Information Technology, Western Governors University*

The fully accredited online curriculum in computer science at Western Governors University (WGU) is discussed, with particular emphasis on improving the educational experience for under-represented minorities and adult learners. Courses are competency based, with either completed software projects as performance assessments or external certifications as the objective assessment. By meeting our students where they are and providing flexible, cost-effective options, we help a diverse student body achieve their goals of becoming software engineers and computer scientists.

Research Talk, 8:45-9:15pm

Cyber Security Analysis of IoT Footwear

Casimer DeCusatis, *Professor of Computer Science, Marist College*
Edwin Forson, *Undergraduate, Marist College*
Katerina Tzannes, *Undergraduate, Marist College*

Commercially available Unmanned Aerial Systems, commonly known as drones, provide a wide array of uses ranging from recreational to professional. This talk explores some of the known and unknown vulnerabilities present within these drones and how they can be exploited to reveal the extent of damage that can be undertaken.

(Palm Court)

Research Talk, 8:15-8:45pm

Designing Anti-Bias Interventions: Using Game Design to Support Empathy, Perspective-Taking, and Bias Reduction

Karen Schrier, *Associate Professor, Games & Emerging Media, Marist College*

We often hear how games are less welcoming toward women and other groups. But can games also encourage empathy? In this talk, I review a study about game jams (game creation event) and empathy. I will share the findings and discuss implications for inclusion and diversity in the games community.

Research Talk, 8:45-9:15pm

Understanding the Importance of Information Management in Future Learning Environments

Dr. Claudia-Melania Chituc, *Leibniz Institute for Research and Information in Education, Frankfurt am Main, Germany*

This research talk focuses on approaches for information management relevant in the context of future learning environments, which include tools and technologies for personalized learning, virtual and augmented reality, cloud computing, 3D-printing, deep learning and learning analytics. Main challenges (e.g., scalability, ethics, interoperability, big data analytics) are also discussed.

Breakout Session 3, Saturday 8-9am

(Dutchess)

Panel

My Job is so Cool

Tina M. Tarquinio, *Director, IBM Z, IBM*
Mark Abrams, *Field Engineer, Rancher Labs*
Jesse Parent, *Orthogonal Research & Education Lab*
Quinn Miller, *Production Coordinator, Velan Studios*
Nancy Kreis (moderator), *Training Coordinator, CEHC, University at Albany*

Folks working in different computing-related roles will explain why their jobs are so cool and talk about the career paths that led them to their current positions. Come to this panel to get a glimpse of the variety of computing careers and career paths.

(Starlight)

Research Talk, 8-8:30am

Transforming Big Data for Fitness for Use: Lessons Learned from Acquisition, Pre-processing, Visualization, and Analytics using Yelp and Stack Overflow Data

Dr. Carolyn C. Matheus, *Associate Professor of Information Systems, Marist College*
Dr. Alan Labouseur, *Associate Professor of Computer Science, Marist College*

This talk will present lessons learned from experiences acquiring, cleansing, transforming, and analyzing large unstructured and semi-structured data sets from Yelp and Stack Overflow. Topics include fitness for use, summarizing trends, and making predictions from data in JSON, relational, graph, and CSV formats using tools like Tableau and RStudio.

Research Talk, 8:30-9am

Exploiting Security Vulnerabilities within Commercial Drones

Edwin Forson, *Undergraduate, Marist College*
Casimer DeCusatis, *Professor of Computer Science, Marist College*
Katerina Tzannes, *Undergraduate, Marist College*

The Zeblok Syncota is an insole which contains seven pressure sensors that perform 3D motion capture as the patient walks or stands still. These "smart shoes" are being developed for use within the healthcare sector. We present experimental results of penetration testing and provide a brief enumeration of their security risks.

(Terrace)

Research Talk, 8-8:30am

Kernelization for the Vertex Clique Cover Problem

Louise Thompson, *3rd Year Undergraduate, Hamilton College*
Darren Strash, *Assistant Professor of Computer Science, Hamilton College*

We investigate how to efficiently compute a minimum clique cover in practice. We develop new data reduction rules for the problem, based on rules for the minimum vertex cover problem. Our technique solves 17 out of 50 tested instances exactly and speeds up heuristic search by several orders of magnitude.

Breakout Session 4, Saturday 9:30-10:30am

(Dutchess)

Panel

Lights, Camera, Action! Creating Technology for Feature Animation

Jill Marie Hackett (moderator), *Product Designer*
Emily Vo, *Software Engineer (Graphics)*
Marley Gilb, *Software Engineer (Front End/Web Development)*
Sally Kong, *Production Technology Technical Director*

Creating 3D animation feature films is a technically and artistically challenging feat. There are various engineering roles in animation studios to build and support a robust animation pipeline as well as develop new tools for various artists to help them execute their creative visions. This panel will explore the typical day in the life of different engineers behind an animated film.

(Starlight)

Diversity Presentation

The Importance of Community for Minority Groups in STEM

Ishita Padhiar, *Masters Student in Computer Science, Rensselaer Polytechnic Institute*
Jessie Ann Owens, *Senior Computer Science and Business and Management, Rensselaer Polytechnic Institute*

The newly established mentorship program at RPI has provided a unique perspective on how community groups can empower and support women. The talk aims to share how the implementation of certain strategies fortified RPI's ACM-W chapter and emboldened women entering the STEM field.

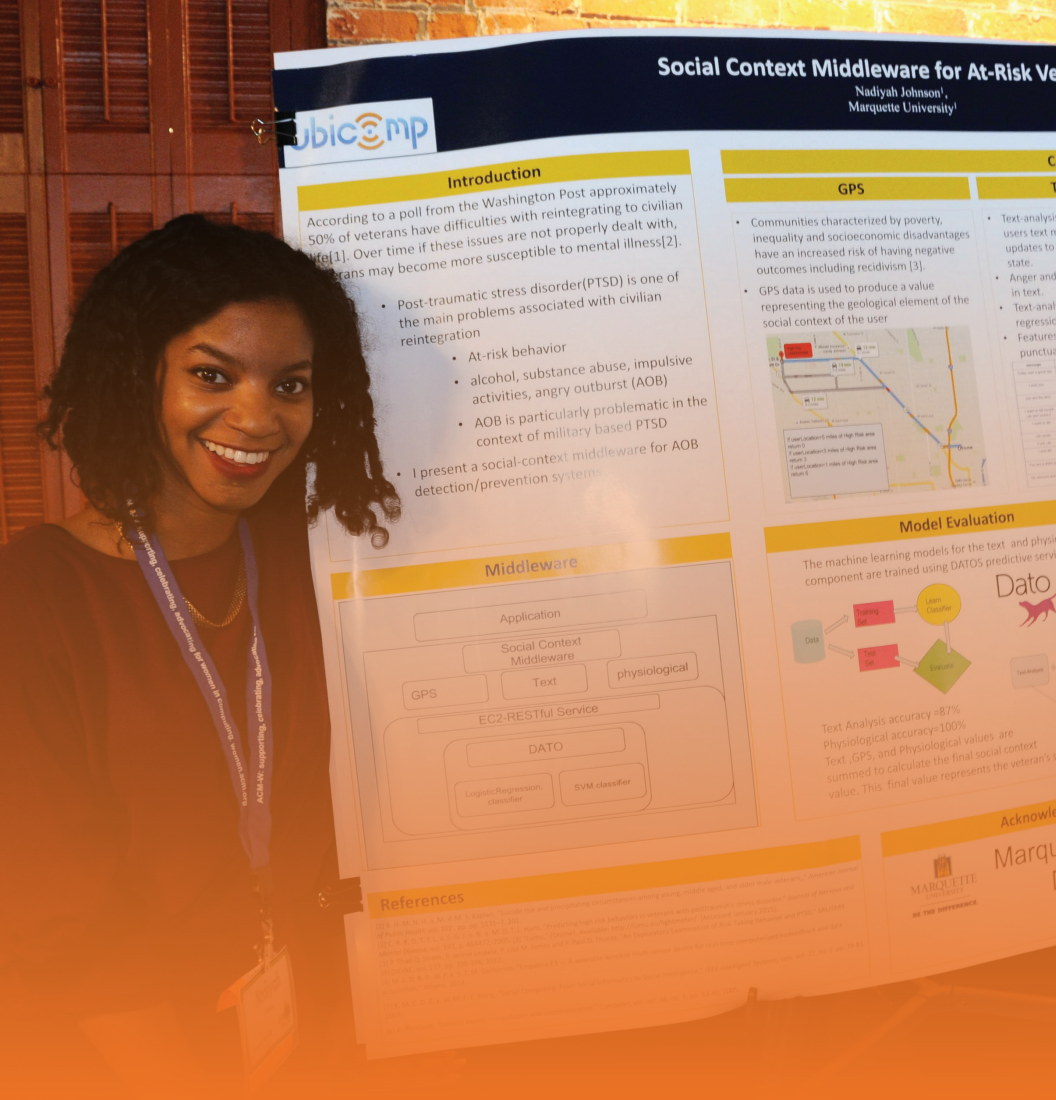
(Terrace)

Diversity Presentation

Moving Towards Wholehearted Living

Catherine Parker, *Associate Director, Office of Career and Professional Development, University at Albany*

Living an authentic life means to accept yourself fully and to let go of who other people need you to be. This requires vulnerability and courage, but the rewards are huge. This session will look at the ideas of wholeheartedness, gratitude, and resilience using the work of Brene Brown and others. We will learn about specific steps you can take towards living wholeheartedly and discuss the things that get in our way. Participants will be encouraged to choose and commit to one thing they can change in their lives to start living more authentically.



POSTER SESSION

Friday 4:15-5:15

(Palm Court)

Poster Session, Friday 4:15-5:15pm

(Palm Court)

Implications of Emerging Technology: An Ethical Analysis of Brain Machine Interfaces

Jonathan Vose, *3rd Year Undergraduate Student, Marist College*
Dr. Carolyn C. Matheus, *Associate Professor of Information Systems, Marist College*

This project presents an ethical analysis of Neuralink, Elon Musk's Brain Machine Interface. The implications of this emerging technology are evaluated from the perspective of cybersecurity, privacy, and unintended consequences, as well as critically examined under the lens of three frameworks of moral philosophy: Hedonism, Consequentialism, and Kantian Deontology.

Developing an Online Marketplace Prototype for Mobile Devices

Dr. Carolyn C. Matheus, *Associate Professor of Information Systems, Marist College*
Phillip Belilovets, *3rd Year Undergraduate Student, Marist College*
Joe Kariuki, *3rd Year Undergraduate Student, Marist College*
Min Kim, *4th Year Undergraduate Student, Marist College*
Maria Molloy, *3rd Year Undergraduate Student, Marist College*
Ahmed Sallam, *2nd Year Undergraduate Student, Marist College*
Jake Tantorski, *3rd Year Undergraduate Student, Marist College*

This project showcases a prototype of an online marketplace iPhone application for college students to buy and sell products. Two collaborative graphical frameworks (Figma and InVision) were used for designing front-end mock-ups, facilitating a user-centered iterative approach for efficiently developing this dynamic application prototype.

Developing a Scalable Platform and Analytics Dashboard for Manual Physical Therapy Practices Using Pressure Sensing Fabric

Tyler Rimaldi, *3rd Year Undergraduate Student, Marist College*
Daniel Grossmann, *3rd Year Undergraduate Student, Marist College*
Dr. Carolyn C. Matheus, *Associate Professor of Information Systems, Marist College*

This project presents a prototype of a manual therapy tool that captures data from pressure sensing fabric and delivers feedback in real-time via a visualization dashboard equipped with graphical analysis tools, aiding instructors in providing instantaneous evaluations of student's performance to improve the effectiveness of instruction and technique.

Discovering Designs with Fourier Descriptors using Interactive Evolutionary Algorithms

Sahar Shakeel, *4th Year Undergraduate Student, Union College*
John Rieffel, *Professor of Computer Science, Union College*

Fourier descriptors are useful in guided discovery design tools so that the necessary details can be stored and manipulated easily. This tool that I created utilizes both Fourier descriptors and interactive evolutionary algorithms that would allow the user's creativity in the design process and create shapes as efficiently as possible.

Monitoring Homes Using IoT Technology: The House that Hears You

Emily Doran, *3rd Year Undergraduate, Marist College*
Jordan Murray, *3rd Year Undergraduate, Marist College*
Amelia Krouse, *3rd Year Undergraduate, Marist College*
Pablo Rivas, *Professor of Computer Science, Marist College*

Smart Home technology combined with the Internet of Things is being used to monitor patients' vitals and track their movements throughout the house. Our research explores the ethical concerns associated with this technology and outlines how it provides patients with the help and monitoring that they need.

The Importance of Removing Algorithmic Bias in Automated Systems

Victoria Spychalski, *Computer Science, Marist College*
Pablo Rivas, *Professor of Computer Science, Marist College*

This research analyzes how demographic parity and other strategies can lead to bias in artificial intelligence-based systems that can end in discriminatory practices. However, in the big data era, addressing biased datasets is extremely challenging due to historical bias. Nonetheless, we explore ideas to overcome some of these challenges.

Behavioral Repertoires for Soft Tensegrity Robots

Aikaterini Petridou, *Computer Engineering, Union College*

The nonlinear dynamics imposed by soft materials often result in complex behaviors hard to predict. We employ a Quality Diversity Algorithm that automatically generates a behavioral repertoire for a soft tensegrity robot, with no a priori knowledge of the robot's dynamics, and minimal human intervention. The resulting suite of behaviors displays a wide diversity of interesting dynamical modes.

A Multi-stage Multi-domain Transfer Learning System (MSMDTLS) to Predict Microbially Induced Corrosion (MIC) Using Biofilms Imaging

Kruttika Sutrave, *1st year PhD student, Dakota State University*
David Zeng, *Assistant Professor/Research of Information Systems, DSU*
Rajesh Godasu, *2nd year PhD student, DSU*

Microbially Induced Corrosion (MIC) causes deterioration of metals and is among the major problems in various industries. We propose a novel Multi-stage Multi-domain Transfer Learning System (MSMDTLS) for MIC prediction tasks at the micro-to-nano scales that transfer knowledge learned with non-biofilm images to biofilms.

Interoperability Standards as Enablers of Future Learning Environments

Dr. Claudia-Melania Chituc, *Leibniz-Institut für Bildungsforschung und Bildungsinformation*

Ensuring interoperability among heterogeneous e-learning infrastructures, software systems, and IoT devices is essential in realizing future learning environments. Different interoperability standardization initiatives emerged to enable the exchange of e-learning data. This work illustrates the strengths of existing interoperability standardization initiatives in implementing future learning environments and addressing e-learning specific challenges.

Social Media Surveillance: The Ethical Repercussions of Inferring Mental Health States from Social Media Data

Jada Tijani, *4th Year Undergraduate Student, Information Technology and Systems, Marist College*
Pablo Rivas, *Professor of Computer Science, Marist College*

The ethics of AI inferring mental health states from social media data has been brought into question due to the lack of consent of the users. I will give an overview of the ethics and implications of this research as well as the positive and negative effects it can have on participants.

Trusted Digital Identity Management Using Blockchain

Zacharie Happel, *4th year Undergraduate at Marist College*
Kaylin Moss, *2nd year Undergraduate at Marist College*
IBM Joint Study, Marist College

Students at Marist College are implementing decentralized identity initiatives, supported by IBM Trusted Identity. After analyzing feasibility and producing a proof of concept, the next phase will be to present digital student IDs as an alternative to physical IDs, decreasing costs and enhancing the user experience of Marist systems.

Distributed Fuzzing via Program Partitioning

Yifan Wang, *PhD student, Computer Science Department, Stevens Institute of Technology*
Yuchen Zhang, *PhD student, Computer Science Department, Stevens Institute of Technology*
Jun Xu, *Assistant Professor of Computer Science, Stevens Institute of Technology*

Parallel fuzzing, concurrently providing various inputs to target program for vulnerability finding, is very popular but without elaborate workload distribution and eventually exploring highly overlapped code regions. Our research overcomes this problem with partitioning program into multiple disjoint pieces and run a designated instance on each piece, well avoiding overlapping.

An Efficient Data Structure for Groups

Akriti Dhasmana, *Undergraduate Student, Union College*
Matt Anderson, *Professor of Computer Science, Union College*

This data structure for mathematical groups is modelled on permutation decision diagrams. A concise representation of groups which are an element of abstract algebra can improve the speed and ease at which binary operations like taking union and intersection can be carried out on them. For the purpose of this project we will only consider infinite abelian group which can be expressed as the direct product of cyclic groups using the fundamental theorem of finitely-generated abelian groups.

How Will AI + Tech Ethics Affect Our Careers: An AI Ethics Survey

Jesse Parent, *Orthogonal Research & Education Lab*
Angela Pang, *School of Social Work, Columbia University*
Valeria Schnake, *School of Law, University of Chile*
Anson Lim, *Eastern Michigan University*
Chrystal Bracken, *South Valley Services to End Domestic Violence*
Anna Wang, *University of Waterloo*

A diverse team of investigators across several industries and career-stages: we examine ethical challenges regarding the growing use of AI. We aim to provide a scouting report on navigating ever-more-technical workplaces with insight for how to ethically engage in 21st-century careers.

A Practical Analysis of Programming Languages Based on Honeypots

M. Smith, *Undergraduate, Marist College*
N. Blaskey, *Undergraduate Student, Marist College*
R. Cannistra, *Professor of Computer Science, Marist College*
C. DeCusatis, *Professor of Computer Science, Marist College*
M. Johnson, *Professor of Computer Science, Marist College*
A. Labouseur, *Professor of Computer Science, Marist College*

The effectiveness of honeypots depends on many factors, including the programming language, which affects the code quality, attack surface, and performance of the honeypot. This poster investigates effective programming languages for creating honeypots by writing the same honeypot, designed to mimic a REST API, in thirteen different languages.

Get Girls Coding: Why Early Adolescent Exposure to Computer Science MATTERS

Eric Zair, *4th year Undergraduate, SUNY Potsdam*
Alexander Mulcock, *3rd year Undergraduate, SUNY Potsdam*
Emma Morse, *3rd year Undergraduate, SUNY Potsdam*
Megan Ponce, *2nd year Undergraduate, SUNY Potsdam*
Katie Watson, *4th year Undergraduate, SUNY Potsdam*
Rachel Stannard, *4th year Undergraduate, SUNY Potsdam*
Bastien Gliech, *4th year Undergraduate, SUNY Potsdam*
Sarah Stannard, *3rd year Undergraduate, SUNY Potsdam*
Nick Dombroski, *2nd year Undergraduate, SUNY Potsdam*
Jasmine McClendon, *2nd year Undergraduate, SUNY Potsdam*
Saira Herrera, *2nd year Undergraduate, SUNY Potsdam*

Socioeconomic disparities in adolescence lead to eventual gender imbalance and lack of diversity in the workplace. ACM-W will create a coding workshop aimed towards children, interview women within the field, and identify a correlation between early exposure to computer science and the percentage of women who later pursue the discipline.

Katrina Lake Stitch Fix

Jendayi Womack, *1st Year Undergraduate Student, Business Administration, University at Albany*

I will be presenting a website that I created about Stitch Fix CEO, Katrina Lake, in one of my classes. I created this website to show my love for both business and technology but also to inspire women and show them that not only men could also be involved in those fields.

Building Strong Girls: Bridging the Gender Divide in STEM

Elisabeth Dubois, *MBA Student/2nd Year Information Science Ph.D. Student, University at Albany*

In a part of the world that continues to be underserved - The Global Child is working to give Cambodian children a chance to succeed and flourish in the digital world. The mission is to promote a culture of inclusion, diversity, and success among our students through implementing STEM.

BIRDS OF A FEATHER SESSIONS

Friday 9:30-10:30pm

(Dutchess, Starlight)

Birds of a Feather Sessions, Friday 9:30-10:30pm

(Dutchess)

What Does it Mean to Be a Male Ally?

Pablo Rivas, *Professor of Computer Science, Marist College*

The gender gap in computing is not solely a women's issue. In order to affect real change, we need allies. This Birds of a Feather session is for our male allies to come together and discuss what it means to be an ally and share ways that their allyship has been effective.

(Starlight)

The Need for an Interdisciplinary Approach to Academia

Kasey J. Waite, *English PhD Fellow, University at Albany*

Often in academia, we think of the fields of study as separate distinct modes. We even have individual buildings which house our unique areas of study, with students literally traveling to different spaces to gain a new information. However, all disciplines can benefit from an interdisciplinary approach which prizes collaboration and thinking outside of one's own expertise. This Birds of Feather session will focus on the ways in which we can increase our interdisciplinary practices both inside and outside of the classroom. Come and discuss ideas pertaining to community involvement, the need to intertwine the science and humanities, and other creative solutions for generating more continuity in education.

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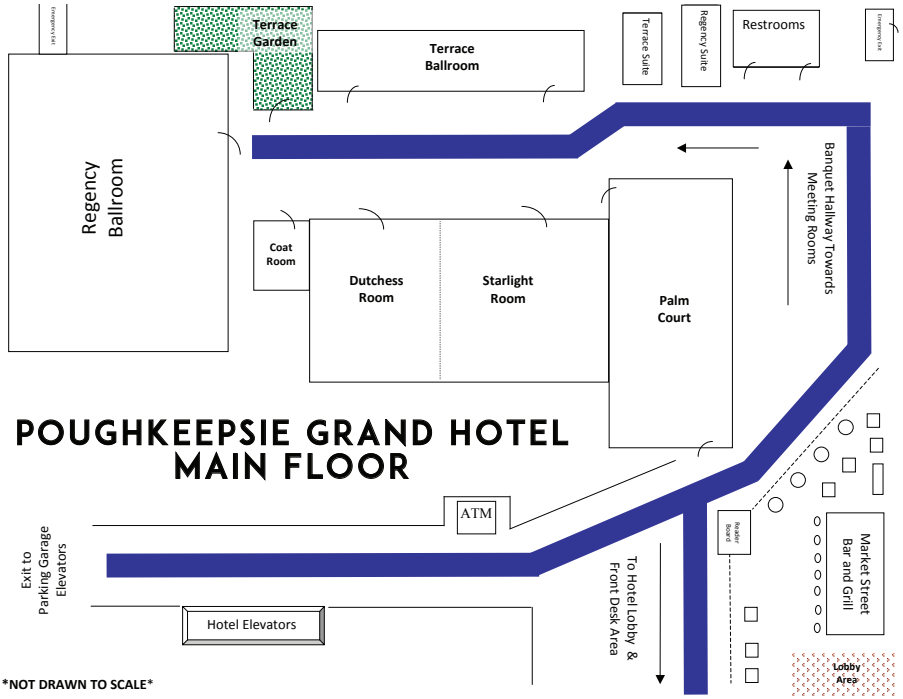

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