SAMANTHA L. KATCHER

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EDUCATION

Tufts University, Medford, MA   Expected Graduation: 2025
Ph.D. in Computer Science
Advised by Daniel Votipka

Rensselaer Polytechnic Institute, Troy, NY   May 2020
Master of Science in Information Technology
Concentration in Data Science and Analytics

Rensselaer Polytechnic Institute, Troy, NY   May 2019
Bachelor of Science in Information Technology & Web Science (ITWS)
and Cognitive Science, dual major
Minor in Science and Technology Studies

HONORS AND AWARDS

Advanced Graduate Degree Program, MITRE   2021 – Present
Highly competitive program that provides funding for MITRE employees to obtain
advanced STEM degrees. Selected for high potential for future growth and impact,
and a record of strong academic and professional achievement and commitment.

Rensselaer Leadership Award Scholarship   2015 – 2020
Merit scholarship given in recognition of an outstanding record of academic and personal
achievements, a strong commitment to excellence, and illustration of intellectual curiosity.

Trailblazer Award, MITRE   2021
Recognition for impact in non-traditional data analytics architecture required to address
high-priority mission-critical objectives. Highest award for an individual at MITRE.

Breakthrough Award, MITRE   2022
Recognition of team for breakthrough achievement in non-traditional data architecture.

PROFESSIONAL EXPERIENCE

MITRE Corporation, Bedford, MA   June 2020 – Present
Complex and Cognitive Systems Engineer
- Data scientist driving meaningful technical and analytical contributions on a big data
  project including extensible cyber data analysis visualizations for Integrated All-
  Domain Effects division
- Designed and implemented mixed-method modeling of sensitive data in Python,
  Elasticsearch, Tableau, and R to find and describe key relationships for sponsors
- Facilitated transparency and collaboration to create more interoperable and cross-
  compatible data science solutions
- Received multiple internal awards for excellence for job performance, mentoring, and
  contributions to scientific community.

PUBLICATIONS

Vulnerability Discovery for All: Experiences of Marginalization in Vulnerability Discovery
Kelsey R. Fulton, Samantha Katcher, Kevin Song, Marshini Chetty, Michelle L. Mazurek, Chloé Messdaghi, and Daniel Votipka. IEEE Symposium on Security and Privacy, 2023.

A Qualitative Evaluation of Reverse Engineering Tool Usability
James Mattei, Madeline McLaughlin, Samantha Katcher, and Daniel Votipka. Annual Computer Security Applications Conference (ACSAC), 2022.

Development of a Rapid Prototyping COVID-19 Geographic Information System and the Influence of Testing Centers on Data Visualization
Samantha Katcher, Josephine Lyons, Mia Price, Thilanka Munasinghe. 5th International Conference on Medical and Health Informatics, 2021.

Comparison of technologies for data exploration and network analysis with volcano data
Samantha Katcher, DSpace@RPI, Rensselaer Polytechnic Institute, 2020.

PRESENTATIONS AND INVITED LECTURES

Poster Presentation, **"Vulnerability Discovery for All: Experiences of Marginalization in Vulnerability Discovery"**, Symposium on Usable Security & Privacy (SOUPS), August 2022.

Poster Presentation, **"Implementation and Comparison of Various Machine Learning Models for Air Quality Predictions due to Weather Conditions"**, ITWS and Management Joint Graduate Student Symposium, December 2019.

Poster Presentation, **"Machine Learning on Data from IEEE Fraud Detection Competition"**, ITWS and Management Joint Graduate Student Symposium, December 2019.

Poster Presentation, **"Insights from Restaurant Nutrition: Clustering and Nutrition Ratio Metric"**, ITWS Graduate Student Symposium, May 2019.

Poster Presentation, **"Critical Data Mapping"**, Science and Technology Studies Student Symposium, 2016.

Panelist, **"Women @ Rensselaer"**, RPI Admissions Office Events, 2017-2018.

Lecture, **"Introduction to Human Centered Design"**, Johnson & Johnson DataLabs, July 2017.

Lecture, **"AGDP in Computer Science"**, MITRE, May 2022.

Talaria Summer Institute, Mentor   2022
- TSI was founded by the nonprofit organization ATHENA By Women In STEM (ABWIS) to breach inequities in access to research and STEM opportunities for females and genderqueer students.
- Mentored high school senior interested in a Computer Science by providing support as she learned to write a comprehensive literature review

Women at Rensselaer Mentoring Program, Mentor   2016 – 2020
- Assisted first-year women in transitioning to their new campus environment by becoming acquainted with the campus culture, cultivating relationships with people who support their goals, and by developing healthy habits to succeed in college
- Supported first-year women students in achieving their academic and professional goals by developing the knowledge, skills, habits and attitudes of high-performing, compassionate leaders

ITWS Mentoring Program, Mentor   2016 – 2020
- Assisted first-year students in my major with transitioning to their new campus environment by becoming acquainted with the department culture
- Connected students with the appropriate resources to help them succeed and achieve their goals

She++ #include Fellowship, Mentor   2016 – 2017
- The she++ #include Fellowship Program empowers high school students to work with their communities and use technology to address needs in their communities
- Mentored a high school senior creating an initiative in her community, she received the fellowship for hosting "Code and Cupcakes" workshops at her local library to inspire other young women to learn to code

ITWS Leadership Board, Rensselaer Polytechnic Institute   2016 – 2020
- President, Vice President(two-term) and Class of 2019 Representative for the Information Technology & Web Science Program's student government body
- Liason between the student body and faculty/staff for curriculum review board and other administrative activities for my major
- Represented the department at admissions events for incoming students

The National Society of Leadership and Success, RPI Chapter   2018 – 2019
- Selected by campus administration to participate among top students in a leadership program

ACADEMIC SERVICE

Department Service:
Chair of Professional Development, Tufts University Chapter   2022 – Present
ACM's Council on Women in Computing (ACM-W)

Conference Sub-reviewer:
- JDCL 2021
- SOUPS 2021
- USENIX 2021
- USENIX 2022

PROFESSIONAL AFFILIATIONS

Usenix,   2022 – Present
Student Member

Association for Computing Machinery (ACM)   2021 – Present
Professional Member

WiCyS - Women in Cybersecurity Organization   2022 – Present
Vice President, MITRE Chapter

AnitaB.org   2021 – Present
Professional Member

Society of Women Engineers   2020 – Present
Professional Member

Gamma Nu Eta   2020 – Present
National Information Technology Honor Society

Upsilon Pi Epsilon   2020 – Present
International Honor Society for the Computing and Information Disciplines