Deborah S. Katz

Summary

Technologist and computer scientist with interests in the intersections of technology and the world. Expertise in explaining complicated technical concepts to audiences outside a given technical specialty. Recent work focused on software quality, binary analysis, cybersecurity, and cognitive psychology. Experience leading teams and shepherding research prototypes into user-facing products.

Skills

- Python
- C++
- x86-64 assembly
- Product demonstrations
- Software analysis
- Team leadership
- Legal research and writing
- Technical writing
- Presentations

Education

Carnegie Mellon University, Pittsburgh, PA — Computer Science M.S. 2015 and Ph.D. 2020
New York University School of Law, New York, NY — J.D. 2007
Amherst College, Amherst, MA — Computer Science B.A. 2004

Experience

GrammaTech, Inc., Ithaca, NY, *Senior Scientist* **2022 - 2025**
Conducted research in cybersecurity, software quality assurance, and binary analysis and rewriting. Translated technical information between cybersecurity and psychology experts to incorporate into cybersecurity research for the IARPA ReSCIND program. Created successful proposals for and executed government research projects on budget and with changing requirements, including for IARPA, DARPA, and the Office of Naval Research. Communicated research results and tools to research sponsors and varied audiences, in both writing and presentations. Developed and conducted training. Led and coordinated interactions among teams across global timezones. Managed teams to roadmap, design, and build products out of research prototypes. Wrote and edited scholarly articles.

Seegrid, Pittsburgh, PA, *Research Software Engineer* **2021 - 2022**
Founding member of R&D team for industrial autonomous mobile robotics company. Developed processes and pipeline for long-term research for new products and features. Interacted with all company domains and departments, including software, hardware, and testing. Established major partnership with Applied Intuition for high-fidelity simulation. Used machine learning, deep learning, and AI for insights about products in customer environments.

Carnegie Mellon University, Pittsburgh, PA, *Graduate Research Assistant* **2012 - 2020**
Conducted research with advisor Professor Claire Le Goues and in collaboration with Professor Philip Koopman. Developed machine learning- and artificial intelligence-based tools for using machine instruction execution data as a tool for assessing program behavior. Analyzed software quality control, as applied to robotics and autonomous systems, including nondeterministic properties of timing delays. Contributed techniques to robustness testing of robotics systems, with the National Robotics Engineering Center. Conducted research on barriers to systematic automated testing and simulation of autonomous and robotics systems. Wrote, edited, and published scholarly papers.

Ropes & Gray LLP, New York, NY, *Associate Attorney* **2007 - 2009, 2010 - 2012**
Patent and trade secret litigation for varied technologies. Prepared documents and presentations to explain complex technological concepts for non-technical audiences. Worked closely with technical experts. Advised clients on matters related to litigation, contracts, and intellectual property strategy.

Additional Information

Admitted to practice law in New York and Massachusetts. Enjoy theater, literature, and knitting. A founding producer of the Carnegie Mellon School of Computer Science musical. Visited all seven continents during sabbatical year, 2009-2010. Trained to operate industrial tuggers and pallet jacks.