Ryan Williams

williamsryan
williamsryan.github.io
ryan-paul-williams
ryan.rpwilliams@gmail.com

Education

Northeastern University *(expected) Jun. 2025*
PhD Computer Science

University of Southern California *Dec. 2014*
MS Computer Science

University of California, Los Angeles *Jun. 2012*
BS Mathematics
BA Design & Media Arts

Publications

Ryan Williams, Anthony Gavazzi, Engin Kirda (2024). Enhancing Network Security through Vulnerability Monitoring. NSS 2024.

Zachary Ratliff, Wittmann Goh, Abe Wieland, James Mickens, **Ryan Williams** (2024). Holepunch: Fast, Secure File Deletion with Crash Consistency. IEEE S&P 2024.

Ryan Williams, Anthony Gavazzi, Engin Kirda (2023). Solder: Retrofitting Legacy Code with Cross-Language Patches. SANER 2023.

Anthony Gavazzi, **Ryan Williams**, Engin Kirda, Long Lu, Andre King, Andy Davis, Tim Leek (2023). A Study of Multi-Factor and Risk-Based Authentication Availability. USENIX Security 2023.

Tongwei Ren, **Ryan Williams**, Sirshendu Ganguly, Lorenzo De Carli, Long Lu (2022). Breaking Embedded Software Homogeneity with Protocol Mutations. LNICST 2022.

Amogh Pradeep, Hira Javaid, **Ryan Williams**, Antoine Rault, David Choffnes, Stevens Le Blond, Bryan Alexander Ford (2022). Moby: A blackout-resistant anonymity network for mobile devices. PETS 2022.

Ryan Williams, Tongwei Ren, Lorenzo De Carli, Long Lu, Gillian Smith (2021). Guided Feature Identification and Removal for Resource-constrained Firmware. TOSEM 2021.

Mansour Ahmadi, Reza Mirzazade Farkhani, **Ryan Williams**, Long Lu (2021). Finding Bugs Using Your Own Code: Detecting Functionally-similar yet Inconsistent Code. USENIX Security 2021.

Alexander Heinricher, **Ryan Williams**, Ava Klingbeil, Alex Jordan (2021). Weldr: fusing binaries for simplified analysis. SOAP 2021.

Elin Carstensdottir, Erica Kleinman, **Ryan Williams**, Magy Seif Seif El-Nasr (2021). "Naked and on Fire": Examining Player Agency Experiences in Narrative-Focused Gameplay. CHI 2021.

Working Experience

BitSight Technologies *Aug. 2023 - present*
Senior Research Scientist

- Working on the product research team primarily focused on developing new methodologies for deriving graded risk vectors.
- Collaborating with cross-functional teams to enhance risk scoring algorithms.

Raytheon BBN Technologies *2014 - 2023*
Scientist

- Worked as a developer and technical lead on numerous DARPA and IARPA projects in the networking and cybersecurity domains.

- Contributed to DARPA program proposals, wrote white papers, and published technical works.
- Worked part-time for the artificial and machine intelligence group with an NLP focus.

Northeastern University *2018 - present*
Research Assistant

- Worked on various projects in the cybersecurity and privacy institute, mainly focused on program analysis and transformation for security.
- Mentored junior researchers on program analysis-related projects.

Teaching Experience

Northeastern University *Spring 2025*
Teaching Assistant

Northeastern University *Spring 2021*
Lecturer

Northeastern University *Fall 2020*
Teaching Assistant

Professional Services

IEEE Symposium on Security and Privacy (S&P) *2022*
Reviewer (Special Issue)

FEAST Workshop *2020*
Organizational Committee

Technical Skills

Programming Languages	C/C++, Rust, OCaml, Python, Julia, Racket, Java, TypeScript, Bash
Software	Coq, Spark, Hive, OpenSearch, SQL, Git, LaTeX, Docker