

Lisa Oakley

Curriculum Vitae

Khoury College of Computer Sciences
Northeastern University
Boston, MA
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📄 lisaoakley.github.io

*Research Interests: Secure and Private Machine Learning,
Formal Methods, Stochastic Systems*

Education

- Sept. 2020 – **PhD in Computer Science**, *Northeastern University*, Khoury College of Computer Sciences.
(expected 2025)
- Advisors: Alina Oprea and Stavros Tripakis
 - GPA: 3.967
 - Selected coursework: Formal Specification, Verification, and Synthesis. Machine Learning Security and Privacy. Privacy in Statistics and Machine Learning.
- Sept. 2015 – **Bachelor of Science in Mathematics and Computer Science**, *Northeastern University*,
Dec. 2018 Khoury College of Computer Sciences.
- *summa cum laude* (highest honors)

Research Experience

- June 2022 – **Quant Research Intern**, *Proof Trading, Inc.*
present
- Advisor: Allison Bishop
- Sept. 2018 – **Research Assistant**, *Northeastern University*, Khoury College of Computer Sciences.
present
- Advisors: Alina Oprea and Stavros Tripakis

Publications

Conference Papers

- 2022 **Adversarial Robustness Verification and Attack Synthesis in Stochastic Systems.**
Lisa Oakley, Alina Oprea, and Stavros Tripakis
To Appear in *35th IEEE Computer Security Foundations Symposium*, (CSF'22) 2022.
<https://arxiv.org/abs/2110.02125>
- 2019 **QFlip: An Adaptive Reinforcement Learning Strategy for the FlipIt Security Game.**
Outstanding Student Paper Award
Lisa Oakley and Alina Oprea
In *10th Proceedings of the Conference on Decision and Game Theory for Security*, (GameSec'19) Stockholm, Sweden, 2019.
https://link.springer.com/chapter/10.1007/978-3-030-32430-8_22

Workshop Papers

- 2020 **Adversarial Robustness of AI Agents Acting in Probabilistic Environments.**
Lisa Oakley, Alina Oprea, and Stavros Tripakis
Workshop on Foundations of Computer Security (Affiliated with *Computer Security Foundations Symposium*), 2020.
<http://www.ccs.neu.edu/~stavros/papers/2020-fcs.pdf>

Presentations

Posters

- 2022 **Model Checking Adversarial Robustness in Stochastic Systems.**
Lisa Oakley, Alina Oprea, and Stavros Tripakis
CRA-WP Grad Cohort for Women, 2022.

- 2019 **Reinforcement Learning Techniques to Increase Intrusion Resilience in Game Theoretical APT Models.**
Lisa Oakley and Alina Oprea
NSF Secure and Trustworthy Cyberspace PI Meeting, 2019.
- Other Talks
- 2019 **Game Theoretical Modeling and Reinforcement Learning Techniques for Cybersecurity.**
Lisa Oakley
Northeastern University Math Club, 2019.
- 2019 **Diversity in Tech Panel.**
Lisa Oakley
Northeastern University Women in Technology and Multi-Diverse Unified Leaders in the Technology Industry, 2019.

Teaching Experience

- Spring 2018, **Algorithms and Data Structures (CS3000)**, *Northeastern University, Undergraduate.*
Fall 2018
 - Teaching Assistant
 - Instructors: Huy Nguyen and Jon Ullman

Spring 2017 **Logic and Computation (CS2800)**, *Northeastern University, Undergraduate.*
 - Teaching Assistant
 - Instructors: Pete Manolios, Thomas Wahl, and David Sprague

Awards and Honors

- 2022 **CRA-WP Grad Cohort for Women Attendee**, *CRA-WP Grad Cohort for Women '22..*
- 2021 **USENIX Diversity Grant**, *USENIX Security '21.*
- 2021 **GREPSEC Workshop Attendee**, *GREPSEC Workshop, USENIX Security '21.*
- 2019 **Outstanding Student Paper Award**, *GameSec '19.*
- 2018 **summa cum laude**, *Khoury College of Computer Sciences, Northeastern University.*
- 2015–2018 **Merit Scholarship**, *Northeastern University.*
- 2015–2018 **Dean's List**, *Northeastern University.*
- 2013–2015 **Dean's List, President's List**, *California Polytechnic State University, SLO.*
- 2013–2015 **Italian Catholic Federation Merit Scholarship**, *Italian Catholic Federation.*
- 2013 **California Scholarship Federation Lifetime Member**, *California Scholarship Federation.*
- 2013 **Kiwanis Merit Scholarship**, *Kiwanis.*
- 2013 **Sons of Italy Merit Scholarship**, *Sons of Italy.*

Industry Experience

- June – Aug. **Software Engineering Intern**, *VMWare Tanzu Greenplum*, Palo Alto, CA.
2018
 - Member of Infrastructure team for distributed Postgres database

July – Dec. **Software Engineering Co-Op**, *VMWare Tanzu*, New York, NY.
2017
 - Windows team for cloud platforms software (Google Cloud, AWS, Microsoft Azure, VMWare On-Prem)

July – Dec. **Quality Assurance Engineering Co-Op**, *Runkeeper (Asics Digital)*, Boston, MA.
2016
 - Mobile app wearables team (Garmin, Apple Watch, Android Watch, Pebble, iOS, Android OS)

Other Activities

- 2020-present **Organizer**, *Khoury PhD Women Group.*
- 2020-present **Member**, *Northeastern University Accountable Algorithms Reading Group.*
- 2019-2020 **Volunteer**, *Y2Y Youth Shelter (Cambridge, MA), Rosie's Place Womens' Shelter (Boston, MA).*
- 2018-2020 **Cast Member**, *ImprovBoston All Access Improv Comedy Show.*

2015-2018 **Vice President, Member**, *Northeastern University Math Club*.
2015-2018 **Member**, *Northeastern University Women in Technology Club*.
2015-2017 **Member**, *NU & Improv'd (Northeastern University Improv Comedy Troupe)*.
2014-2015 **Volunteer**, *Habitat for Humanity ReStore (San Luis Obispo, CA)*.
2011-2012 **Sponsorship Chair**, *Justin-Siena High School Relay for Life (American Cancer Society)*.