

# Lisa Oakley

## Curriculum Vitae

Khoury College of Computer Sciences  
Northeastern University  
Boston, MA  
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*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.  
(exp. 2025)
  - Advisors: Alina Oprea and Stavros Tripakis
  - GPA: 3.967
- Aug. 2022 **Master of Science in Computer Science**, *Northeastern University*, Khoury College of Computer Sciences.  
  - Selected coursework: Formal Specification, Verification, and Synthesis. Machine Learning Security and Privacy. Privacy in Statistics and Machine Learning.
  - GPA: 3.967
- Dec. 2018 **Bachelor of Science in Mathematics and Computer Science**, *Northeastern University*, 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  
In *35th IEEE Computer Security Foundations Symposium*, (CSF'22, FLoC'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](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>

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## 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.

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## 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

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## Awards and Honors

- 2022 **CRA-WP Grad Cohort for Women**, *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.*

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## 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)

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## 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)*.