A. Pinar Ozisik

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EDUCATION

University of Massachusetts Amherst — Sep. 2012 - Feb. 2021
Ph.D. in Computer Science — Feb. 2021
M.S. in Computer Science — May 2016

Brandeis University — Aug. 2007 - May 2012
B.S. in Computer Science & B.A. in Neuroscience, *cum laude*

RESEARCH & PROFESSIONAL EXPERIENCE

Camera Culture, MIT Media Lab — Mar. 2022 - present
Visiting Researcher — Boston, MA
Advisor: Ramesh Raskar

Autonomous Learning Lab, UMass Amherst — May 2019 - Feb. 2021
Research Affiliate — Amherst, MA
Advisor: Philip S. Thomas

Cryptoeconomics Lab, UMass Amherst — Sep. 2013 - May 2019
Research Assistant — Amherst, MA
Advisor: Brian N. Levine

Systems & Technology Research — Jun. 2015 - Aug. 2015
Research Intern at Analysis and Decision Systems Group — Woburn, MA
Supervisor: Kirill Trapeznikov
Project: Implementation of Bayesian parametric and non-parametric models on Twitter for community detection and topic modeling

BINDS Lab, UMass Amherst — Apr. 2013 - Aug. 2013
Research Assistant — Amherst, MA
Advisor: Hava Siegelmann

DEMO Lab, Brandeis University — Sep. 2011 - May 2012
Undergraduate Researcher — Waltham, MA
Advisors: Kyle I. S. Harrington & Jordan Pollack

Center for Embedded Networked Sensing, UCLA — Jun. 2011 - Aug. 2011
REU (Research Experiences for Undergraduates) Student — Los Angeles, CA
Advisors: Nabil Hajj Chehade & Greg Pottie

PUBLICATIONS

[1] **Security Analysis of Safe and Seldonian Reinforcement Learning Algorithms.**
A. Pinar Ozisik, and Philip S. Thomas. In *Neural Information Processing Systems (NeurIPS)*, December 2020. (20.1% acceptance rate)

[2] **Graphene: Efficient Interactive Set Reconciliation Applied to Blockchain Propagation.**
A. Pinar Ozisik, Brian N. Levine, George Bissias, Gavin Andresen, Darren Tapp, and Sunny Katkuri. In *Conference of the ACM Special Interest Group on Data Communication (SIGCOMM)*, August 2019. (14.5% acceptance rate)

[3] **Graphene: A New Protocol for Block Propagation Using Set Reconciliation.**
A. Pinar Ozisik, Gavin Andresen, George Bissias, Amir Houmansadr, and Brian N. Levine. In *ESORICS International Workshop on Cryptocurrencies and Blockchain Technology (CBT)*, September 2017.

[4] **Sybil-Resistant Mixing for Bitcoin.**
George Bissias, **A. Pinar Ozisik**, Brian N. Levine, and Marc Liberatore. In *Proceedings of ACM Workshop on Privacy in the Electronic Society* (WPES), November 2014.

[5] **Detecting Stumbles with a Single Accelerometer.**
Nabil Hajj Chehade, **A. Pinar Ozisik**, James N. Gomez, Fabio Ramos, and Gregory J. Pottie. In *International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, August 2012.

[6] **The Effects of Finite Populations and Selection on the Emergence of Signaling.**
Kyle I. Harrington, **A. Pinar Ozisik**, and Jordan Pollack. In *Proceedings of Artificial Life (ALIFE) XIII*, July 2012.

[7] **The Effect of Tags on the Evolution of Honest Signaling.**
A. Pinar Ozisik and Kyle I. Harrington. In *Proceedings of the Genetic and Evolutionary Computation Conference (GECCO) Companion*, July 2012.

OTHER WRITE-UPS

[1] **Concentration Inequalities in the Wild: Case Studies in Blockchain & Reinforcement Learning.**
A. Pinar Ozisik. *Doctoral Dissertation*, February 2021.

[2] **Estimation of Miner Hash Rates and Consensus on Blockchains.**
A. Pinar Ozisik, George Bissias, and Brian N. Levine. *arXiv preprint arXiv:1707.00082*, July 2017.

[3] **An Explanation of Nakamoto's Analysis of Double-spend Attacks.**
A. Pinar Ozisik, and Brian N. Levine. *arXiv preprint arXiv:1701.03977*, January 2017.

[4] **An Analysis of Attacks on Blockchain Consensus.**
George Bissias, Brian N. Levine, **A. Pinar Ozisik**, Gavin Andresen, and Amir Houmansadr. *arXiv preprint arXiv:1610.07985*, October 2016.

HONORS & AWARDS

- Dissertation Writing Fellowship, 2020
- RSA Conference Security Scholar, 2019
- Grace Hopper Conference Scholarship Grant (21% acceptance), 2015
- EMC CRA-W Grad Cohort Scholarship Award, 2014
- Google Anita Borg Scholar (now called Google's Women Techmakers Scholar), 2013
- **Travel Grants:** NeurIPS Travel Grant (2020); ACM SIGCOMM Travel Grant (2019); CS Women's Travel Grant (2019); UMass CS Dept. Travel Grant (2017); ACM CCS Travel Grant (2014)

TEACHING

College of Information and Computer Sciences, UMass Amherst Sep. 2019 - Dec. 2019
Instructor

- Computer Science Brain Teasers

College of Information and Computer Sciences, UMass Amherst Sep. 2018 - Dec. 2018
Instructor

- Ethical Issues in Technology

College of Information and Computer Sciences, UMass Amherst Sep. 2012 - May 2020
Teaching Assistant

- Secure and Distributed Systems
- Using Data Structures
- Computer Literacy
- Introduction to Programming
- Introduction to Problem Solving with the Internet
- Programming with Data Structures
- Introduction to Problem Solving with Computers
- Representing, Storing and Retrieving Information
- Reasoning Under Uncertainty

Computer Science Department, Brandeis University Sep. 2010 - May 2011
Teaching Assistant

- Data Structures and the Fundamentals of Computing
- Programming in Java and C

PROFESSIONAL DEVELOPMENT & OUTREACH

- Mentee, CS Research Mentorship Program (CSRMP) at Google Research, 2021
- Participant, UMass Institute for Teaching Excellence & Faculty Development Workshop on "Implicit Bias and Microaggressions in the College Classroom", 2019
- Senior Ph.D. Student Panelist, CS Women, 2019
- Mentor, Women in Engineering & Computing Career Day, 2015, 2018
- Mentor, Girls Inc. Eureka! Workshop (Programming in Scratch), 2014

POSTER PRESENTATIONS & INVITED TALKS

- Graphene: Efficient Interactive Set Reconciliation Applied to Blockchain Propagation. *Facebook Novi System Research Seminar*, June 2021.
- Security Analysis of Safe & Seldonian Reinforcement Learning Algorithms. *NEURIPS*, December 2020.
- Graphene: Efficient Interactive Set Reconciliation Applied to Blockchain Propagation. *SIGCOMM*, August 2019.
- Security Analysis of Safe & Seldonian Reinforcement Learning Algorithms. *Northeast Reinforcement Learning and Decision Making Symposium (NERDS2020)*, November 2020.
- Safe & Secure Policy Improvement for Adversarial Settings. *New England Security Day (NESD19)*, March 2019.
- Estimation of Miner Hash Rates and Consensus on Blockchains. *New England Security Day (NESD17)*, September 2017.
- Increasing the Scalability and Reliability of Virtual Currencies. *New England Security Day (NESD15)*, September 2015.

SKILLS

Computer Languages:	Java, Python, Lisp
Data Analysis:	Matlab, R
Tools:	SQL, git, Eclipse, LaTeX, Emacs
Languages:	Turkish (native), English (fluent), French (proficient)

COURSEWORK

- **Relevant Courses:** Artificial Intelligence, Reinforcement Learning, Neural Networks, Machine Learning, Adversarial Machine Learning, Computer Vision, Advanced Algorithms, Computation Theory, Computer Networking

Complex Systems Summer School, Santa Fe Institute Jun. 2016 - July 2016
Complex Systems Scholar Santa Fe, NM

- Partially funded four-week introduction to complex behavior in mathematical, physical, living, and social systems

REFERENCES

- Brian N. Levine, `brian@cs.umass.edu`
- Philip S. Thomas, `pthomas@cs.umass.edu`
- Phillipa Gill, `phillipa@cs.umass.edu`
- Ramesh Raskar, `raskar@media.mit.edu`