

A. Pinar Ozisik

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EDUCATION

University of Massachusetts Amherst	Sept. 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, <i>cum laude</i>	

RESEARCH & PROFESSIONAL EXPERIENCE

Algorithmic Alignment Group, MIT CSAIL	Apr. 2023 - present
<i>Research Scientist</i>	Cambridge, MA
Advisor: Dylan Hadfield-Menell	
Camera Culture, MIT Media Lab	Mar. 2022 - Jan. 2023
<i>Visiting Researcher</i>	Cambridge, MA
Advisor: Ramesh Raskar	
Responsibilities: Mentored a class, “AI for Impact: Venture Studio”, in Fall and Spring of 2022; and led a new initiative in the Media Lab, called “Decentralized Society + Web3”	
Autonomous Learning Lab, UMass Amherst	May 2019 - Feb. 2021
<i>Research Affiliate</i>	Amherst, MA
Advisor: Philip S. Thomas	
Cryptoeconomics Lab, UMass Amherst	Sept. 2013 - May 2019
<i>Research Assistant</i>	Amherst, MA
Advisor: Brian N. Levine	
Analysis & Decision Systems Group, Systems & Tech. Research	Jun. 2015 - Aug. 2015
<i>Research Intern</i>	Woburn, MA
Supervisor: Kirill Trapeznikov	
Responsibilities: Implemented Bayesian parametric and non-parametric models on Twitter for community detection and topic modeling	
BINDS Lab, UMass Amherst	Apr. 2013 - Aug. 2013
<i>Research Assistant</i>	Amherst, MA
Advisor: Hava Siegelmann	
DEMO Lab, Brandeis University	Sept. 2011 - May 2012
<i>Undergraduate Researcher</i>	Waltham, MA
Advisors: Kyle I. S. Harrington & Jordan Pollack	
Center for Embedded Networked Sensing, UCLA	Jun. 2011 - Aug. 2011
<i>REU (Research Experiences for Undergraduates) Student</i>	Los Angeles, CA
Advisors: Nabil Hajj Chegade & 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); UMass 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 Sept. 2019 - Dec. 2019
Instructor

- **Computer Science Brain Teasers**

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

- **Ethical Issues in Technology**

College of Information and Computer Sciences, UMass Amherst Sept. 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 Sept. 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*, Jun. 2021
 - *SIGCOMM*, Aug. 2019
- Security Analysis of Safe and Seldonian Reinforcement Learning Algorithms.
 - *NeurIPS*, Dec. 2020
 - *Northeast Reinforcement Learning and Decision Making Symposium (NERDS2020)*, Nov. 2020
- Safe and Secure Policy Improvement for Adversarial Settings. *New England Security Day (NESD19)*, Mar. 2019
- Estimation of Miner Hash Rates and Consensus on Blockchains. *NESD17*, Sept. 2017
- Increasing the Scalability and Reliability of Virtual Currencies. *NESD15*, Sept. 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, 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