

Ari Karchmer

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Research interests

Cryptography, computational learning theory, interactive proofs, pseudorandomness, meta-complexity, adversarial machine learning, and theoretical computer science broadly.

Education

- 2018 – Present **Boston University** – Boston, Massachusetts
Ph.D. in computer science
Advisor: Ran Canetti
- 2015 – 2018 **Brandeis University** – Waltham, Massachusetts
B.S. in mathematics and computer science

Publications

- 2021 *Covert Learning: How to Learn with an Untrusted Intermediary*
Ran Canetti, Ari Karchmer
Theory of Cryptography Conference (TCC).

Research experience

- Jan. 2019 – present **Boston University, Dept. Computer Science** — Graduate Research Fellow
BU Security Group
- Sep. 2019 – Dec. 2019 **WarnerMedia Applied Analytics** — Graduate Research Fellow
Participated on a research team focused on recommender systems. Developed an independent content metadata inference project based on compressive sensing techniques that outperformed previous systems by 33%.
- Sep. 2017 – May 2018 **Brandeis University, Dept. Computer Science** — Undergraduate Research Assistant
Advisor: Olga Papaemmanouil
Investigated techniques for predicting the performance and latency of database queries with machine learning. Studied the effect of high variance reward functions on the viability of Thompson sampling for contextual multi-armed bandits.

Teaching experience

- Spring 2022 Teaching fellow, CDS 657 : Law for Algorithms (Boston University)
with professors Ran Canetti and Gabe Kaptchuk and Andy Sellars
- Spring 2022 Teaching fellow, CDS 682: Responsible AI, Law, Ethics and Society (Boston University)
with Shlomi Hod
- Fall 2019 Teaching fellow, CS 558: Network Security (Boston University)
with professors Ran Canetti and Sharon Goldberg
- Fall 2018 Teaching fellow, CS 235: Algebraic Algorithms (Boston University)
with professor Leonid Levin

Selected Talks

- Nov. 2021 *Covert Learning: How to Learn with an Untrusted Intermediary*
Charles River Crypto Day at MIT.
- Nov. 2021 *Covert Learning: How to Learn with an Untrusted Intermediary*
Theory of Cryptography Conference.
- Sep. 2021 *Covert Learning: How to Learn with an Untrusted Intermediary*
Boston University Theory Seminar.

Industry experience

- May 2017 – Aug. 2017 **Acadian Asset Management** — Software Engineering Intern — Boston, Massachusetts

Professional service

- Jan. 2021 – Present Leading organizer of BU security and cryptography research seminar