

Ari Karchmer

PhD. Student in Computer Science

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Research Interests

Algorithms & Theoretical Computer Science, Cryptography, Multi Party Computation, Machine Learning, Privacy

Education

- 2018–present **PhD. Computer Science**, *Boston University*, 3.8 / 4.0.
2015–2018 **BS. Mathematics, Computer Science**, *Brandeis University*, Dean's List.

Experience

- Jan. 2019 – **Boston University, Dept. Computer Science**, *Graduate Research Fellow*.
present BU Security Group
- Aug. 2018 – **Boston University, Dept. Computer Science**, *Graduate Teaching Fellow*.
Dec. 2018 CS235–Algebraic Algorithms with Professor Leonid Levin.
- Sep. 2017 – **Brandeis University, Dept. Computer Science**, *Undergraduate Research Assistant*.
May 2018 Advisor: Olga Papaemmanouil
Investigating techniques for predicting the performance of database queries with Machine Learning. Exploring the effect of variance in normally distributed rewards on the viability of Thompson Sampling for contextual multi-armed bandits.
- May 2017 – **Acadian Asset Management – Boston, MA**, *Software Engineering Intern*.
Aug. 2017 Contributed to trading service software by improving quality and purpose of daily health cycle. Worked with python (pandas), SQL to construct and maintain daily automation services for traders. Applied data science/visualization techniques to log data to allow team to more easily identify problem areas in system.

Technical skills

Python, Pandas, Scikit Learn, Keras, Numpy, Java, Javascript, C, SQL, Postgres, Hadoop

Relevant Courses

Fundamentals of Cryptography, Advanced Cryptography, Advanced Algorithms, Abstract Algebra, Number Theory, Probability, Distributed Systems, Statistical Machine Learning, Programming Language Theory, Convex Optimization

Technical Projects

Mytherapynotes.com, *python, javascript*.

Comprehensive business software for practicing Licensed Mental Health Counselors (LHMCs). Includes access to automated billing, note taking environments, and patient history.

Video Recommendation System for Vimeo, *python, pandas, gensim*.

Used Latent Dirichlet Allocation (LDA) model from Gensim to cluster similar movies based on their descriptions. See at arikarchmer.com/vimeo

March Madness Basketball Prediction Model, *python, pandas*.

Built a model to predict tournament games using data from Kaggle and Python/ pandas. > 90% first round success rate in 2017. See at arikarchmer.com/march

Motor Accident Danger Prediction Model, *python, pandas, scikit learn*.

Built a model using scikit-learn decision tree regressor and AdaBoost to predict motor accident related danger in Manhattan. Applied model to Google Maps api to compare the safety of maps api suggested travel routes. See at arikarchmer.com/motormodel