Oliver Broadrick

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Education

B.S., The George Washington University, 2018-Present.

Major in Computer Science

Major in Mathematics

GPA: 3.77

Research Experience

Statistical Election Audits (2020-Present)

Worked with Professor Poorvi Vora and Professor Filip Zagòrski on post-election Risk-Limiting Audits (RLAs). An RLA guarantees with known probability that incorrectly announced election results will be detected and corrected. I have developed novel mathematical methods for ballot-polling audits and stratified audits, and I have written a significant portion of the open-source audit software library r2b2.

Hotel Image Recognition (2021-Present)

With Professor Pless and three peers, I am working on a search utility that uses key points to improve on existing hotel recognition methods, especially for query images with high occlusion. An existing search utility is used by the National Center for Missing an Exploited Children for sex trafficking investigations.

Imprecise Scheduling (2021-Present)

Working with Professor Bhagi Narahari to develop novel scheduling algorithm for neural network tasks using an imprecise computation model. Progress is partially reflected in software repository.

Teaching Experience

Undergraduate Teaching Assistant

Taught weekly discussion section, assisted in lectures, hosted office hours.

Foundations of Computing, Spring 2022

Discrete Structures II, Fall 2021

Learning Assistant

Assisted in lectures and discussions, recorded supplemental lectures, hosted office hours.

Foundations of Computing, Spring 2021

Discrete Structures II, Fall 2020

Discrete Structures I, Spring 2020

Tutor

Tutored more than a dozen high school students one-on-one in high school mathematics, physics, and computer science for DC company Tungsten Prep.

Honors and Awards

2022, Member, Pi Mu Epsilon Mathematics Honorary Society

2021, Summer Undergraduate Program in Engineering Research (SUPER)

2020, Summer Undergraduate Program in Engineering Research (SUPER)

Peer Reviewed Publications

1. Oliver Broadrick, Sarah Morin, Grant McClearn, Neal McBurnett, Poorvi L. Vora and Filip Zagòrski, "Simulations of Ballot Polling Risk-Limiting Audits". Seventh Workshop on Advances in Secure Electronic Voting, in association with Financial Cryptography 2022.