

# Oliver Broadrick

Homepage: <https://oliverbroadrick.com/>  
Email: [odbroadrick@gmail.com](mailto:odbroadrick@gmail.com)  
Phone: 207 351 5208  
Address: 2207 K St NW #1, Washington DC 20037

## 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)*

Images taken in hotel rooms appear in human trafficking investigations. Recent work by Professor Pless and others produced a database of over a million hotel room images and a recognition search tool used by the National Center for Missing and Exploited Children. With Professor Pless and three peers, I am working on a search utility that uses key points for recognition when query images have high occlusion.

### *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 high school students one-on-one in high school mathematics, physics, and computer science for DC company Tungsten Prep.

## Honors and Awards

2020, Summer Undergraduate Program in Engineering Research (SUPER)

2021, Summer Undergraduate Program in Engineering Research (SUPER)

2022-Present, Member, Pi Mu Epsilon Mathematics Honorary Society

## 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.