

# Timothy Mou



timothymou.com



tmoux



timothy-mou



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## EDUCATION

### SWARTHMORE COLLEGE

BACHELOR'S IN COMPUTER SCIENCE AND MATHEMATICS

2019 - 2023 | Swarthmore, PA

GPA: 3.99 / 4.0

## WORK AND RESEARCH EXPERIENCE

### SWARTHMORE COLLEGE | TEACHING ASSISTANT

August 2022 - May 2023 | Swarthmore, PA

- Designed and co-taught a competitive programming course targeting a wide range of backgrounds
- Developed pedagogical materials including lecture notes, problemsets, and practice contests

### AMAZON | SDE INTERN

June 2022 - August 2022 | Seattle, WA

- Designed and implemented a maintainable and efficient method to query large snapshot objects, saving an estimated four months of engineering effort per model change
- AWS services used: S3, Glue, Athena

### CARNEGIE MELLON UNIVERSITY | RESEARCH ASSISTANT

May 2020 - August 2021 | Pittsburgh, PA

- Led and designed a corpus study of state machine protocols in smart contracts
- Built static analysis tools to identify gas optimizations and access control vulnerabilities in Solidity programs
- Created a practical implementation of Nominal Wyvern, a novel type system with dependent object types and decidable typechecking

### JUNI LEARNING | COMPUTER SCIENCE INSTRUCTOR

September 2020 - May 2021 | Remote

- Taught private computer science lessons for middle and high school students, focused on preparation for the USA Computing Olympiad

### FERMILAB | RESEARCH ASSISTANT

August 2017 - May 2019 | Batavia, IL

- Conducted research on the search for non-resonant signatures of Fermi contact interactions
- Implemented new statistical methods to improve the current limit-setting processes using C++ and the data analysis framework ROOT

## AWARDS

- |      |                             |   |
|------|-----------------------------|---|
| 2023 | Phi Beta Kappa Member       |   |
| 2022 | Silver Medalist (2nd place) | International Collegiate Programming Contest (ICPC) North American Championship |
| 2021 | Bronze Medalist (4th place) | ICPC World Finals Invitational  |
| 2021 | Bronze Medalist (4th place) | ICPC North American Championship  |

## SKILLS

### PROGRAMMING

Proficient:

C++ • Java • Python • Haskell

Experienced:

C • OCaml • Javascript • Coq • Agda • L<sup>A</sup>T<sub>E</sub>X