

WILLIAM LIAO

COMPUTER SCIENCE & MATHEMATICS @ UMD

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EDUCATION

University of Maryland, College Park

College Park, MD (Aug. 2020 –)

- Bachelor of Science - BS, Computer Science & Mathematics (Expected May 2023)
- Banneker/Key (Full Ride) Scholarship Recipient
- GPA: 3.92
- Relevant Coursework - Current: Cryptography, Data Science, Elementary Theory of Computation; Completed: Algorithms, Org. of Programming Languages, Introduction to Computer Systems, Discrete Structures, Probability Theory; Calculus I-III, Linear Algebra, Object Oriented Programming I-II.

EXPERIENCE

University of Maryland

Teaching Assistant

College Park, MD (Aug. 2021 –)

- Served as a TA for CMSC216 - Introduction to Computer Systems.
- Led discussion/lab sections to reinforce class concepts and introduce extra material.
- Held office hours and worked with students to strengthen their understanding, clarify confusions, and inspire further inquiry.
- Graded projects and exams; provided feedback to students.

nth Solutions, LLC

Software Developer Intern

Exton, PA (Jan. 2019 – Jul. 2020)

- Developed a user-facing dashboard using Java and JavaFX that facilitates communication of data between an IMU(Accelerometer, Gyroscope, Magnetometer) module and a computer. Dashboard is also responsible for configuring the module for data collection and processing the recorded data.
- Implemented a JavaFX Graph / Media Player into the dashboard that enables the visualization of IMU motion data synchronized with recorded video of IMU module's movement.

Analytical Graphics, Inc.

Shadow

Exton, PA (Jun. 2019)

- Participated in a 21 hour career practicum to learn about the structure and functions of a software company.
- Investigated corporate software development strategy for scalability and managing large codebases.

PROJECTS, ACTIVITIES, AND AWARDS

Spotted Lanternfly App

(Nov. 2018 – Jan. 2020)

- Developed an iOS mobile app in Swift for the PA Dept. of Agriculture that helps users manage Spotted Lanternflies (*Lycorma delicatula*), an invasive species in Southeastern Pennsylvania.
- Presented and received recognition for app at the 103rd Pennsylvania Farm Show.

OCaml Interpreter

(Nov. 2021)

- Wrote a lexer, parser, and interpreter for a subset of OCaml in OCaml.
- Applied functional programming paradigms and techniques throughout (tokenization, abstract syntax tree construction, etc.).

VEX Robotics

(Jun. 2017 – May 2019)

- Programmed autonomous movement of constructed robot in C to navigate a game field and stack cones while reacting to unplanned stimuli.
- Integrated macros to optimize robot control and movement.
- Qualified for PA State Competition in all two (2) years of participation.

Function Flyer

(Mar. 2017 – May 2017)

- Developed an educational mobile game for Android using Java and Android Studio that teaches users the fundamentals of graphing.
- Presented app functionality, design, and documentation to a panel of judges.
- Won 1st Place for Programming at the PA Computer Fair (out of ~20 teams).

ADDITIONAL INFO.

Programming Languages Python, C, Java, OCaml, Ruby, Rust, C++, Some Swift, JavaScript

Technical Skills NumPy, Pandas, JavaFX, MatLab, Microsoft Office, Git, L^AT_EX

Test Scores SAT: 1560 (Math: 800, EBRW: 760)