Emmaline Mai

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Education

Carnegie Mellon University, Pittsburgh, PA | B.S. Computer Science 2023

- Cumulative GPA: 3.74
- Relevant courses: Imperative Computation, Functional Programming, Computer Systems, Theoretical Computer Science, Parallel & Sequential Data Structures & Algorithms, Robot Kinematics & Dynamics, Feedback Control

Lynbrook High School, San Jose, CA | Valedictorian 2019

Work Experience

Automation Controls Engineering Intern | Tesla, Inc. | summer 2021

- Working with engineers and operators to develop machine controls with PLC ladder logic, interface with the Manufacturing Execution System, and create HMIs for a new production line

Teaching Assistant | Carnegie Mellon University | spring, summers 1&2 2020

- Worked with other 15-112: Fundamentals of Programming and Computer Science course staff to teach recitations, labs, and review sessions, hold office hours and hackathons, and mentor students through their term projects

Assistant Instructor | Galileo Learning | summer 2019

Teaching Assistant | Digital Media Academy | summer 2018

- Worked with instructors to teach kids coding/AI concepts, robotics, digital animation, and electronics

Leadership Experience & Activities

RoboClub | Roborchestra Hardware Lead & Software Team Member | 2019-present

- Designing and building a robotically played ukulele using Arduino
- Processing data from computer vision detecting physical conducting

CMU Biorobotics Lab | Research Assistant | 2020-present

- Using Matlab to develop a directional compliance strategy for autonomous snake robot locomotion

CMU Sweepstakes Buggy Team| 2019-present

- Helping to construct new buggies (carbon fiber unmotorized vehicles) and maintain past buggies for races

TechNights | Session Co-Leader | 2020-present

- Co-led creation of an educational video to teach middle school students about Turing Machines

FIRST Robotics Competition | Mechanical & Animation Director | 2015-19

- 2016-19 Regional Chairman's Award Winner, 2019 Regional Winner, 2017 Championships Subdivision Winner
- Led a team to design and build an elevator mechanism for the robot to climb onto an elevated platform

Tech Museum of Innovation | Volunteer Exhibit Interpreter | 2017-19

Skills

Proficient: Python, C, Standard ML, PLC programming (Allen-Bradley)

Basic: Matlab, Java, C++, Android Studio, HMI programming (Ignition)

Projects

ELM (Enrich, Learn, Motivate) Android app | Hackathon Project | 2020

- Manages a database and instantly connects tutees with tutors for any subject through a video call session
- Includes a feed where users can publicly post their progress

Square Jumper platformer game| Term Project | 2019

- Uses Python OpenCV color detection and modified Dijkstra's algorithm for enemy pathfinding

Awards

Carnegie Mellon University School of Computer Science Dean's List | fall 2019

NCWIT Award for Aspirations in Computing National Honorable Mention & Affiliate Award | 2019

Girl Scouts Gold Award | 2018

- Combated lack of youth interest in STEM by founding a youth game coding club