Emmaline Mai

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Education

Carnegie Mellon University, Pittsburgh, PA | May 2023

- B.S. Computer Science, Minors in Robotics and Media Design
- 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

- Helped bring a pilot production line to the start of production by developing machine controls with PLC ladder logic, interfacing with the Manufacturing Execution System, and designing HMIs (Human-Machine Interfaces)

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

CMU Biorobotics Lab | Research Assistant | 2020-present

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

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 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
- Led a team to design and build an elevator mechanism for the robot to climb onto an elevated platform

Skills

Proficient: Python, C, Standard ML, ladder logic (Allen-Bradley), HMI programming (Ignition)
Basic: Matlab, Java, C++, SQL

Projects

Cardistry Dashboard web app | Python (Flask), Javascript (React), SQL | 2021

- Tracks cardistry moves learned in a database hosted by Microsoft Azure
- Uses a Markov chain to generate move combos, YouTube Data API for displaying recommended tutorials

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

- Manages a database and instantly connects tutees with tutors for any subject through a video call session

Square Jumper platformer game| Python OpenCV | Term Project 2019

- Uses computer vision color detection for game interaction 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