Richard Jin

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY **Expected May 2024**
Bachelor of Science, Computer Science, Minor in Business
GPA: 3.83; Dean's List

Relevant Courses: OOP & Data Structure, Computer System Organization & Programming, Machine Learning, Functional Programming, Algorithm, Database, Operating Systems*, Computer Vision*, Discrete Math, Multivariable Calculus, Differential Equations, Linear Algebra, Probability & Statistics *(* Spring 2023)*

TECHNICAL EXPERIENCE

Firmware Engineer, Combat Robotics at Cornell, Ithaca, NY **January 2021 – Present**

- Designed and built electrical components of a remotely controlled combat robot called Lance, which was a flipper robot that featured a high powered gear motor of a maximum torque of 595 in-lb and won first place under the Sportsman robot category in April 2022 NHRL competition.
- Charted and assembled electrical components of a self-driving robot called Manny, which could analyze live footage in order to track and follow roads while also reading road signs to get directions. Manny featured a Raspberry Pi 4 Model B of 8 GB RAM, a Pi camera, a dual motor control module, 2 servo motors, and 2 brushed drive motors.
- Collaborated with 4 other computer scientists to integrate electrical hardware with a deep learning based signs recognition program, which utilized a CNN model built by using Pytorch.

LEADERSHIP EXPERIENCE

Firmware Subteam Lead, Combat Robotics at Cornell, Ithaca, NY **June 2022 – Present**

- Created a timeline consisting of 6 design milestones and formulated a plan for a minimal viable product of the project with optional add-ons to prevent all-or-nothing situations.
- Facilitate a fast-paced and collaborative group environment on the Firmware subteam.
- Delegate tasks to 4 teammates and provide programming guidance to the subteam.
- Collaborate with the leadership board to overcome unexpected obstacles and delays in our work, and provide support to help struggling members succeed on the team.

RESEARCH EXPERIENCE

Research Assistant, SciFi Lab, Cornell University, Ithaca, NY **September 2021 – Present**

- Partnered with 3 other researchers to make a pair of smart glasses, which is a wearable authentication device that can identify users based on subtle skin deformation captured by a RGB camera.
- Collaboratively worked on making a U-Net deep learning architecture with a ResNet18 encoder. This architecture was used to identify the face of users in the previously mentioned project.
- Collected experiment data by using Raspberry Pi Models, Pi cameras, mini-speakers, and mini-microphones
- Augmented deep learning training datasets based on various computer vision methods.

Projects

Show Tracker App: Collaborated with 4 other programmers to make an app for tracking shows watched / planned to watch. Links: Front-end code | Back-end code | Demo of App Features
Battleship Game: Worked with three other computer scientists to make a turn-based battleship game in a functional programming language called Ocaml. Links: Github Repo
DIY Electric Longboard: Built my own electric longboard that is powered by 2 Li-Po batteries and a brushless motor. Links: Demo of My Electric Longboard

SPECIALIZED SKILLS

Skills: Python | C++ | Java | MySQL | Ocaml | Swift | C# | TypeScript | JavaScript | HTML | CSS | Fusion 360