Catherine Kim

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WORK EXPERIENCE

MRover Project Team **Sept 2020 – Present**
Software Engineer *Ann Arbor, MI*

- Organized a GUI, using CSS, HTML, JavaScript, and Vue, that interacts with the Rover in real-time by sending and receiving messages through LCM channels.
- Created an interface using Vue, that does an automated sequence dipping pH strips in water then retracting after 10 seconds.

University of Michigan **May 2021 – Aug 2021**
Research Assistant *Ann Arbor, MI*

- Radiology and lung cancer research, concentrating on using machine learning for detection of lung nodules in computed tomography.
- Deployed DCNN model on training set of over 500 MRI scans, and graphed results using Excel.

Rewriting the Code **Feb 2021 – May 2021**
Marketing Intern *Remote*

- Founded an RTC chapter at UM and increased existing RTC membership at UM by over 50% through coordinating social events and meeting with UM professors.
- Designed 20 graphic designs for social media content using Adobe Photoshop and Figma.

PROJECTS

Pathfinder **Fall 2021**
C++

- Designed an algorithm to solve the Traveling Salesman's Problem that calculates the optimal path in less than 30 seconds for any graph with 40 or fewer cities.
- Implemented a heuristic TSP that calculates close to optimal path of 15000 nodes in less than 1 second.
- Applied Prim's Algorithm to create a minimum spanning tree to form lower bounds, which combines with heuristic upper bound to prune 99.99% of the branches.

Piazza Machine Learning **Winter 2021**
C++

- Applied machine learning techniques to predict the subject of a Piazza forum post given its content with 90% accuracy.
- Trained program to associate certain word patterns with a particular subject using a simplified multivariate Bernoulli Naïve Bayes classifier.

EDUCATION

University of Michigan **Sept 2020 – May 2024**
BS, Computer science, cognitive science *Ann Arbor, MI*

- Cumulative GPA: 3.845/4.0
- Relevant coursework: Data structures & algorithms (EECS 281), Introduction to Computer Organization (EECS 370), Foundations of Computer Science (EECS 376), Digital Product Design (ENTR 390)

TECHNICAL SKILLS

- Languages: C++, C, CSS, JavaScript, HTML, Python
- Software: Linux, Git, LaTeX, Unity
- Design Software: Figma, Adobe Photoshop, Adobe Illustrator, Pivotal Tracker, InVision
- Design Skills: Design research, user interface, prototyping, product design, wireframing, usability testing