

AMAN SIKKA

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SKILLS

- C, C++, Java, Python, Assembly, Verilog, Pytorch, Docker, ROS, Git

WORK EXPERIENCE

UM::Autonomy Engineering Project Team: *Computer Vision/Task Planning Engineer*

09/2023 – Present

- Helped improve computer vision model used by the vehicle by correcting errors between the code and odometry data from the boat's sensors to make sure they lined up correctly
- Improved the boats autonomous navigation abilities by helping implement SLAM and A* algorithms
- Helped the advanced capabilities team on their tasks to ensure that the boat tasks, such as circling a buoy and shooting water at a target, met *RoboBoat* competition standards

University of Michigan Computer Science and Engineering: *Natural Language Processing Researcher*

12/2023 – Present

- Helped publish multiple papers with a PhD Student on natural language processing reasoning tasks such as LLMs on Tabular data and LLM abilities to negotiate and decide in certain scenarios
- Presented at weekly reading groups on different natural language processing topics such as model weight quantization, LLM applications to robotics, and LLM alignment
- Attended research seminars with professors and students on recent machine learning research literature

EDUCATION

University of Michigan-Ann Arbor || Ann Arbor, MI

August 2023 – May 2027

B.S.E Computer Engineering, Minor: Mathematics

Relevant Coursework: Data Structures and Algorithms, Computer Organization, Compiler Construction, Embedded Systems, Logic Design, Electronic Circuits, Discrete Mathematics, Linear Algebra, Differential Equations

PROJECTS

Custom Unix Shell -

- I built my own custom unix shell/command line in C
- Shell is optimized for custom aliases and task automation so that I can build/test programs in one command
- I built different helper commands for the user so they can navigate the shell



Robotics SLAM Path Planning -

- I implemented the SLAM algorithm using the pygame library in Python to visualize it
- I read over the mathematics behind the SLAM algorithm and implemented it using python
- I created this SLAM algorithm in a way that was only through LIDAR data acquisition

FinanceLLM -

- I built my own LLM finetuned for finance questions from the Claude 3 Model
- I allow users to input a financial report pdf from which the model can answer the question and provide evidence
- I finetuned this LLM to be more educational and give answers on financial questions to an actual investment banker