Kushal Vikranth Reddy Sodum

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EDUCATION

University of Michigan **Ann Arbor, MI**
Bachelor of Science in Computer Science *May 2025*
GPA: 3.89 / 4.00
Coursework: Data Structures and Algorithm, Foundations of Computer Science, Discrete Mathematics, Consequence of Computing
Awards: William J. Branstrom Freshman Prize(Awarded to freshmen in the upper five percent of the class)

SKILLS

Computer: HTML, CSS, JavaScript, Node.js, React, MongoDB, C++, Python, Pandas, ROS, OpenCV, MATLAB
Courses: The Complete 2023 Web Development Bootcamp – Udemy(Full Stack Web Development Course)
Languages: Proficient in Telugu, intermediate in French(B2 certified)

PROJECT EXPERIENCE

MSAIL – Multi-layer Perceptron **Ann Arbor, MI**
Programmer *January 2024 – Present*

- Constructed a multi-layer perceptron from scratch, covering key concepts including perceptrons, feedforward, and backpropagation algorithms.
- Optimized the neural network's performance through hyperparameter tuning, striking a balance between accuracy and generalization.

MRover – University of Michigan **Ann Arbor, MI**
Member of Autonomy sub team *September 2023 – Present*

- Implemented control systems for an autonomous rover using ROS and OpenCV in C++ and Python.
- Devised a RANSAC algorithm to robustly fit a plane to a surface, effectively handling outliers and noise for accurate surface reconstruction.
- Devised a cost map of surface normals utilizing advanced algorithms, facilitating the autonomous rover's optimal route navigation and increasing efficiency by 150%.

Machine Learning and Natural Language Processing **Ann Arbor, MI**
Programmer *January 2023 – April 2023*

- Developed a C++ program employing natural language processing and machine learning techniques to automatically identify subjects of posts on the EECS 280 Piazza platform.
- Executed recursive algorithms and worked with binary trees, templates, comparators, and the map data structure to enhance post subject classification accuracy to 87%.

Books for a Cause **Dubai, U.A.E.**
Creator of website and Lead Full Stack Developer *May 2019 – May 2021*

- Led a team of 5 high school students to launch a website facilitating the sale of old textbooks from senior students to underclassmen.
- Utilized HTML, CSS, and JavaScript for front-end web design and user interface. Used PHP for back-end server-side scripting and dynamic content generation and MySQL for database management, ensuring efficient data storage and retrieval.
- Incorporated a reliable payment system and was used by 500+ users within two months of launch.

WORK EXPERIENCE

Emax Electronics **Dubai, U.A.E.**
Intern in Major Domestic Appliances department *July 2022 – September 2022*

- Designed and administered a comprehensive survey aimed at assisting the Major Domestic Appliances department in customer profiling and identifying specific needs.
- Collected and analyzed both qualitative and quantitative data from 3000+ Emax customers.
- Contributed to data-driven decision-making processes and recommendations for improving customer satisfaction and product offerings.