Rehan Mullan

Software Engineering Intern / Student

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I am a Graduating Student at Tulane Univeristy with a passion for computer science and intelligence. I worked as a Software engineer at AMD on the system software team. This taught me key skills needed in conducting a software engineering project. I plan to translate these skills into a career in industry and academia as I am on the job market as well as currently applying for various PhD programs. I plan to specialize in agent autonomy and other applications of AI in intelligent systems such as robots.

SKILLS

Tools and Languages	Python, React, Java, C/C++, Git, LaTeX, MarkDown
Quantitative Research	Q-Learning, Proximal Policy optimization, Mathematical Modeling, MySQL
Communication	English, Hindi (fluent speaker), Spanish (proficient)

TECHNICAL EXPERIENCE

Advanced Micro Devices   May 2023 — August 2023
Software Engineering Intern   *San Jose, CA*

- Updated open source Pytest_commander project an intuitive GUI application that seamlessly integrates React and Python technologies while sitting atop pytest, effectively automating and optimizing the execution of Built in self testing procedures for the kria- Som product line.
- Leveraged a Versatile tool kit encompassing npm, Node.js, Docker, GitHub to streamline development processes while working on the Graphical-user-interface.
- proficiently operated within Linux environments, demonstrating expertise in flashing operating systems onto SD cards and ensuring smooth functionality of software on embedded systems like Kria-SOM

PROJECTS

IEEE MicroMouse   August 2023 - May 2024
Senior year Project   *New Orleans, LA*

- Created a simulation environment in Webots, enabling rigorous reinforcement learning testing on archive of 400+ past mazes, fine tuning of the reward function and policy.
- Implemented Reinforcement Learning algorithms, such as Q-Learning and Proximal Policy Optimization (PPO) using Open-AI gym, to train the Micromouse for efficient maze exploration and pathfinding.
- Built an autonomous robot capable of solving the maze using reinforcement learning.

News media's influence on the S&P 500   October 2022 - December 2022
Data Science project   *New Orleans, LA*

- Imported and cleaned Tabular Data from Kaggle and Microsoft research open data.
- Analyzed the impacts of 4 datasets on each other: Sentiment Analysis on the New York Times, Government Spending in the US, Exports and Imports in the US as well as the S&P 500 stock price.
- Built Machine Learning pipelines to explore the impact of these factors as parameters on the S&P 500
- Explored how these factors can affect consumer spending, lead to a growth or a dip in the economy, as well as affect the growth of certain companies.

Wordle Solver   June 2022 - July 2022
Wordle bot

- Developed a Python script that scrapes and saves all possible words for Wordle from a database using BeatifulSoup4 and requests python library
- Coded a Selenium script that helps input and retrieve information from the Wordle website
- Optimized present script using algorithm paradigms such as divide and conquer and greedy algorithms
- Solved popular word game Wordle by maximizing entropy and calculating information value of each possible guess

EDUCATION

Bachelor of Science Engineering, *Tulane University of Louisiana*,   2019 - 2024
Computer Engineering and Computer science
Relevant coursework: Python programming, Java programming, Algorithms, Data Science, Machine Learning.

INTERESTS

Autonomous AI, Intelligent Systems, Robotics, Explainable AI, Reinforcement Learning, Machine Learning