

Husain Raja

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EDUCATION

Carnegie Mellon University

Bachelor of Science in Information Systems and Computer Science

May 2028

Pittsburgh, PA

Relevant Coursework: Algorithms and Data Structures, Discrete Mathematics, Linear Algebra, Probability/Statistics

PROFESSIONAL EXPERIENCE

Software Development Intern

Spacepointe Payment Solutions

September 2021 – January 2023

Dayton, OH

- Debugged and resolved over 15 critical bugs in our payment system, addressing inefficiencies across diverse hardware configurations to enhance reliability and re-structure operations
- Enhanced software compatibility for payment systems on 5 device types, expanding usability and supporting small to medium sized enterprises in diverse retail environments

Student Visionary of the Year | Lead Supervisor

Leukemia and Lymphoma Society

January 2023 – March 2023

Dayton, OH

- Led fundraising initiatives for cancer research, negotiating with business owners and organizing events
- Helped raise \$400K while leading a team of >20, spanning across various demographics

PROJECT EXPERIENCE

Carnegie Mellon Racing Driverless | C++, Python, Machine Learning, Data Processing August 2024 – Present

Perceptions Team

- Engineered a LiDAR-based perception system using a CNN and the PointPillars Encoder for data pre-processing
- Achieved a cone detection and classification accuracy of 98%, localized them with a 10 cm margin of error, while maintaining real time processing at 50 Hz

Controls Team

- Revamped our sim environment for the MPPI controller by creating and enhancing a novel design framework
- Optimized car and track bounding features that increased simulation accuracy by 15-20%, ensuring more reliable performance in real-world scenarios

CMU SuperApp | React, MongoDB Atlas, JS, Git

August 2024 – Present

- Innovated a customizable hub for over 10,000 students to access campus resources by integrating APIs for course schedules and dining menus, and restructuring the backend to optimize user profile preferences
- Led coordination of design and implementation tasks across multidisciplinary teams using Agile methodologies, leveraging Trello for project tracking and Git for version control to ensure on-time delivery of the MVP proposal with clearly defined milestones

CMU AI Competition Platform Development | React, PostgreSQL, JS

August 2024 – December 2024

- Created a full-stack web app leveraging React and PostgreSQL for the premiere AI Competition at CMU
- Optimized database architecture, supporting ~200 participants with seamless registration and management

MarketMoves - A Stock Sentiment Analyzer | Python, Natural Language Processing, JS

September 2024

- Constructed a sentiment analysis tool utilizing APIs, like Yahoo Finance and the News API, to integrate stock data, financial algorithms, technical indicators, and news articles
- Deployed Python NLTK and produced buy/sell/hold suggestions, improving prediction accuracy by 15% in testing

SKILLS

Languages: Python, C/C++, CUDA, Java, SQL, JS, HTML/CSS

Frameworks: React, Next.js, MongoDB Atlas (NoSQL), PostgreSQL

Developer Tools: Git, Github, Docker, VS Code, IntelliJ, JIRA, Trello

Libraries: pandas, NumPy, Matplotlib, NLTK, PyTorch, TensorFlow