RISHIK MUTHYALA

Bellingham, MA 02019

rishikmuthyala.pro rmuthyala@umass.edu linkedin.com/in/rishikmuthyala github.com/rishikmuthyala

Education

University of Massachusetts - Amherst   Sep. 2023 – May 2026
Bachelor of Science in Computer Science & Mathematics, Minor in Business   *Amherst, Massachusetts*

Relevant Coursework

- Data Structures
- Python Programming
- Object Oriented
- Discrete Mathematics
- Artificial Intelligence
- Probability and Statistics
- Calc I, II, III, IV
- Linear Algebra

Experience

Drobot Co.   May 2023 – September 2023
Software Engineer Intern   *Bellingham, MA*

- Developed autonomous drone prototype using Python, TensorFlow, and PyTorch, improving object tracking accuracy by 30% and implemented real-time MAVLink communication system for seamless data transfer between control station and drone
- Optimized mapping algorithms, reducing processing time by 40% and designed custom object detection model accuracy for multi-object tracking
- Utilized CAD for drone component prototyping, reducing weight by 25% and increasing flight time by 15%
- Created data analytics pipeline with Pandas and NumPy, processing 1TB+ of flight data; integrated sensor fusion algorithms, enhancing drone stability and precision by 35%

Columbia University   June 2022 – May 2023
Software Engineer - Co-op   *New York City, NY*

- Engineered responsive frontend using React.js and Redux, integrating with a Node.js/Express backend and PostgreSQL database, demonstrating proficiency in modern web development stack
- Deployed application on AWS EC2, setting up CI/CD pipeline with GitHub Actions for automated testing and deployment, ensuring scalability and reliability

Projects

Campus Chirp | *React, Node.js, Express, MongoDB, JWT*   September 2024

- Developed a full-stack social media platform tailored for college students, enabling real-time post sharing and interaction
- Engineered a responsive frontend using React.js with state management, integrated with a Node.js/Express backend API
- Implemented secure user authentication using JWT and bcrypt, and utilized MongoDB for efficient data storage and retrieval

Melody | *Python, React, PostgreSQL, OAuth, Express.js*   August 2024

- Architected a full-stack music-centric social media platform, utilizing React.js for the frontend and Python for backend services
- Designed and implemented a robust RESTful API using Express.js, integrating OAuth for secure authentication and PostgreSQL for efficient data management

Dorm Buddy | *C++, Arduino, Next.js, Node.js*   November 2023

- Developed a hardware device using Arduino programmed in C++ to monitor and communicate room and roommate status in real-time
- Created a scalable backend using Node.js and Next.js, enabling real-time data synchronization between the device and web interface

Leadership

First Tech Robotics   June 2022 – June 2023
Co-Captain   *FTC Robotics*

- Co-captained and programmed Java-based competitive robot, implementing sensor fusion and PID algorithms to optimize autonomous task execution in dynamic environments

Technical Skills

Languages: Python, Java, C++, JavaScript, TypeScript, Swift, SQL, HTML/CSS

Developer Tools: VS Code, Xcode, Android Studio, Git, GitHub, AWS EC2, Google Cloud Platform, Docker

Technologies/Frameworks: React.js, Node.js, Express.js, Next.js, SwiftUI, TensorFlow, PyTorch, Firebase, PostgreSQL, Redux, Pandas, NumPy, Arduino, WebSockets, OAuth, CI/CD, RESTful APIs, Linux