

ARJUN YADAPADITHAYA

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PROFESSIONAL EXPERIENCE

Research Assistant

Franklin Energy, Embedded Systems and Firmware developer, Chicago, IL

January 2024 - Present

- Engineered an advanced monitoring device with 2 custom PCBs to revolutionize steam trap efficiency in buildings. Integrated piezo-electric sensors, dual thermistors, and a low-power microcontroller for precise health monitoring.
- Optimized firmware for seamless hardware integration and accurate data acquisition; designed a gateway for real-time data processing and multi-node network, ensuring comprehensive monitoring and analysis.

Automation Engineer

Ericsson, Capgemini, Bangalore, India

January 2023 - August 2023

- Led the team in automating labor-intensive tasks such as data parsing and recording leveraging Java, achieving a 25% reduction in manual operation time and streamlining workflows for increased efficiency.
- Maintained database integrity with MobaXterm, optimizing performance and implementing measures to prevent data breaches. Automated security checks, reducing data leakage by 4%.

Fullstack Developer

Colt Technology Services, Capgemini, Bangalore, India

August 2021 - January 2023

- Constructed an NPM package simplifying command line git workflow and enhancement efforts for a web application, addressed 2 PR's a day, ensuring seamless user experience, and introducing features to enhance overall functionality.
- Migrated deployments from Jenkins to Rancher cluster management for all versions of the website.
- Engaged in daily standups, weekly retrospectives and frequent 1-on-1 meetings with teammates to discuss improvements to workflow, productivity management, and technical and non-technical blockers.

Embedded Systems Intern

Vitvara Technologies, Mangalore, India

April 2020 - August 2020

- Developed a Smart Warehouse Management System utilizing ESP Chips to streamline inventory movement, reducing management time by 68% and increasing employee productivity.
- Led the design and implementation of a sun-tracking solar panel system with the MSP430 microcontroller, integrating precise panel positioning with stepper motors and efficient energy management, improving solar energy capture.
- Facilitated an IoT, ThingSpeak, and microcontroller workshop for over 60 students. Guided participants through hands-on activities, leading to the creation of a home automation system.

PROJECT EXPERIENCE

Battery Operated Radiator Control

April 2024

- Devised a low-power automatic radiator control system designed to retrofit on steam radiators.
- Utilized Honeywell's Zone Valve Operator and LowPowerLab's DualOptiboot bootloader for the ATmega1284P.
- Championed the "Radiator Revivers" startup, securing first place at the prestigious Kaplan Pitch Tank and winning \$30,000 in funding to enhance energy efficiency solutions for heritage buildings.

Precision Track Master: Advanced Object Tracking System

October 2023

- Designed a high-precision object tracing bot with a firmware modded Nycla Vision housing STM32, an integrated camera, and dual servos allowing the bot to move at an angle of 180 degree.
- Utilized Machine learning for detection and a custom 3D-printed body for optimal fit, inspired by surface-to-air missiles, the device operates autonomously, decreasing manual intervention by 100%.

EDUCATION

Illinois Institute of Technology, Chicago, IL

May 2025

MS, Electrical and Computer Engineering, GPA: 3.83 / 4.0

- Courses : Digital Signal Processing, OOPS and ML with C++/Python, DSP, Hardware Software co-design.

Nmam Institute of Technology, Karnataka, India

June 2021

BE, Electronics and Communication Engineering, GPA: 3.7 / 4.0

- Courses : VLSI Circuits, FPGA design, PIC & ARM MCU, Embedded Systems, Data Structures and Algorithms using C++, AEC, DEC.

SKILLS

Languages: C, C++, Java, Python, SQL, MATLAB.

Technologies: KiCAD, Logic Analysers, Sigma Studio, CCS, Git, TortoiseSVN, Grafana, Flask, MongoDB, Jenkins, MobaXterm, Raspberry Pi, Wifi, Bluetooth, SPI, UART, I2C, I2S.