

Adarsh Medikonda

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(832)-758-0413 | Spring, TX

EDUCATION

Texas A&M University

BS, Electronic Systems Engineering Technology

- Double minor in Computer Science and Cybersecurity
- Relevant Coursework: Real Time Software Development, Data Structures, Algorithms, Discrete Math, Advanced Network Systems and Security, MCU Architecture, Embedded Systems Development, Control Systems, Object-Oriented Programming

December, 2023

College Station, TX

WORK EXPERIENCE

Embedded Software Intern | Python, JavaScript, C++, C#, Azure, .NET

Lennox International

- Created and deployed a Python and React based dashboard application that would communicate between C++ based firmware and an Azure Service Bus to request/evaluate datasets from S30 and S40 smart thermostats
- Implemented system design with publish-subscribe models (MQTT) for scalable embedded architectures
- Reverse engineered currently implemented .NET C# based system to expedite thermostat edge computation transition process
- Produced a thorough testing suite for the application, along with software documentation using clean code guidelines

June, 2023 – August, 2023

Carrollton, TX

Cloud Solutions Architect Intern | Python, C#, Terraform, AWS

XRSports

- Automated deployment of ECS clusters, integrating Terraform and AWS, resulting in standardized and efficient client platform generation
- Set-up the AWS infrastructure for stable end-to-end digital platforms for customers, while employing the Agile SDLC development process
- Utilized pair programming with senior architects to quickly review and deploy production ready code

March, 2021 – September, 2021

Frisco, TX

PROJECTS

Senior Design: Robotics Control HUB | Python, Altium, PyQt

- Created an educational Robotics Control HUB for students in higher education to intuitively deploy robotics systems
- Delivered a Python based API and GUI application for users to interact with their control hub
- Employed project management skills to seamlessly integrate hardware and software deliverables
- Designed and verified PCB with Altium

Fall 2023

Line Following Robot | C

- Used C to program control algorithms for a line following robot driven by the MSP432 MCU.
- Utilized timers, sensor interfacing, control algorithms, ISRs, and debugging for embedded systems
- Worked with PWM signals to control an on-board servo to specific positions on command
- Gained familiarity working with various communication protocols: UART, I2C, SPI

Fall 2021

EMG Video Game Controller | NI LabView

- Utilized NI LabView to translate EMG signals from a player to beat level 1-1 of Super Mario
- Used digital conditioning by programming low-pass filters in NI LabView, encoding ADC outputs into player inputs

Fall 2022

JavaFX Connect 4 | Java, JavaFX

- Implemented dynamic computer opponent difficulty scaling based on user selection, from random moves to strategic algorithms
- Designed a background data structure for real-time board management, move verification, and state tracking, allowing for game state saving/loading functionality
- Used JavaFX to design an intuitive user interface, leveraging smooth animations to enhance user experience

Fall 2023

Intrusion Detection System | Python

- Created a Machine Learning based Intrusion Detection System, trained using the IoT-23 dataset driven by sklearn
- The system was effective in generating network classification reports, visualizing analysis results with Pandas and matplotlib

Fall 2022

SKILLS

Languages: Python, C, C++, Java, HTML, CSS, JavaScript, MATLAB, ARM Assembly, SQL.

Microcontrollers: Raspberry Pi, Arduino, TI-MSP432P401R, TI-Tiva C Series.

Developer Tools: Git, gdb, Valgrind, AccuRev, JIRA, CMake, Docker, Kubernetes, Jenkins.

Security Tools: Wireshark, Snort, Autopsy, Sandboxing (Cuckoo, CAPEv2)

Software Libraries: ReactJS, ElectronJS, Pandas.

Machine Learning: TensorFlow 2, Keras.

Cloud: AWS, Azure.

Documentation: LaTeX, Microsoft Office Suite (Word, Excel, Powerpoint).

Operating Systems: Windows, Linux.