Rishitha Nagineni

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EDUCATION

California State University, Northridge — **Northridge, CA**
Master of science in Computer engineering — **Expected May 2025**
Cumulative GPA: 3.40/4.00
Relevant Coursework: System on Chip; Operating Systems; Data mining; Machine Learning; Computer System Architecture

koneru lakshmaiah University — **Vijayawada, India**
Bachelor Of Technology in Electronics and communication engineering — **May 2016 – May 2020**
Cumulative GPA: 3.52/4.00

WORK EXPERIENCE

Information Technology — **Northridge, CA**
Student Assistant — **Aug-2024 – Present**

- Helped users with basic IT issues and escalated more complex cases to specialists.
- Kept detailed records of calls to improve response times and service quality.

CGI (Canadian global Information) — **Hyderabad, India**
Software engineer — **Sept 2020 – Jul 2023**

- Aligned with team's goals to complete sprint tasks on schedule, performing unit testing to ensure high-quality deliverables for timely product releases.
- Collaborated with the testing team, explaining user stories, troubleshooting issues, and supporting accurate and thorough testing processes.
- Developed products according to client requirements, using JSON to handle data structures and maintain functionality that met project specifications.
- Led data analysis and reporting efforts, providing insights and reports that supported project alignment and informed product development decisions.

SKILLS

- Programming Languages: Java, C, C++, Python, Unidata, Mainframes.
- Firmware/Hardware: Embedded C, UART, SPI, I2C, GPIO, ARM Cortex-M, RTOS, Device Drivers.
- Tools: Git, JIRA, MATLAB, TensorFlow, Keil, STM32CubeIDE, Arduino.
- Operating systems: Linux, FreeRTOS, Windows.

PROJECTS

Embedded Handwritten Text Recognition System — **Sept 2024 – Dec 2024**

- Developed a Handwritten Text-to-digital embedded system by integrating a camera module with an embedded board Raspberry to capture and process handwritten images using a lightweight version of TrOCR.
- Preprocessed the IAM Handwriting Dataset and implemented real-time inference pipelines optimized for resource-constrained hardware.
- Built a Flask-based web interface hosted on the embedded device to allow users to upload images and receive digitized text output, enabling portable offline functionality.
- Ensured a seamless user experience through hardware-software integration low-latency inference, and responsive web delivery on local network.

Real-Time Object Detection on embedded Platforms using TensorFlow — **Sept 2023 – Dec 2023**

- Deployed TensorFlow object detection models (Faster R-CNN, SSD) on embedded hardware on Raspberry for real-time inference, optimizing for low-power, edge-computing environments.
- Converted and quantized pre-trained models to TensorFlow Lite format for reduced model size and improved runtime performance on resource-constrained devices.
- Built Python-based visualization overlays using OpenCV to display real-time bounding boxes and class labels, improving usability and field testing. Benchmarked model performance on edge devices, comparing speed, accuracy, and power efficiency.

Dual Tone Multi Frequency Signal Processing on Microcontroller — **Sept 2019 -Dec 2019**

- Developed a microcontroller-based DTMF decoding system using real-time DSP techniques to detect and interpret keypad tones with precision.
- Programmed in Embedded C with ADC integration to process analog signals, ensuring reliable tone recognition for embedded telecommunication applications.

PUBLICATIONS

A novel approach of MRI-CT Image fusion using CWT for finding Disease location

- Proposed a fusion technique using Coverlet wavelet transform to combine MRI and CT images for disease location estimation, providing improved outcomes compared to existing methods in medical image processing.

ACHIVEMENTS

- Completed IBM Applied AI and Deep Learning courses.