AKHIL CHERUKURI

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TECHNICAL SKILLS

Programming Languages	: C, C++, Embedded C, Python, Bash Scripting, Java.
Operating Systems	: Linux (Ubuntu, ROS), Real-Time OS (FreeRTOS, Amazon FreeRTOS).
Platforms	: LPC 4078, LPC 1769, ESP32, Raspberry Pi, Nvidia Jetson.
Technologies and Protocols	: GPIO, SPI, I2C, UART, CAN, BLE, USB, ADC, PWM.
Tools and Debugging	: Eclipse, Visual Studio Code, Git, CMock, MATLAB, NXP MCUXpresso, Keil µVision, Putty, TeraTerm, Arduino, Logic Analyzer, GDB, PCAN, Cura, Test-Driven Development, Agile Methodologies,

EDUCATION

Master of Science in Computer Engineering [Embedded Systems] **July 2021**
San Jose State University, San Jose, California **3.6/4.0**
Courses: Embedded Software, Embedded Hardware Design, Embedded System Applications, Advanced Computer Design, System Software, Object-Oriented Programming Data Structures and Algorithms (C++), Internet of Things.

Bachelor of Technology in Electronics and Communication **July 2019**
Jawaharlal Nehru Technological University, Hyderabad, India **3.6/4.0**
Courses: Embedded Systems Design, Microcontrollers, Objected Oriented Programming (Java), Operating Systems, Computer Networks, Computer Architecture and Organization, Wireless Communication and Networks.

EXPERIENCE

Embedded Systems Intern, Orange Research Labs Hyderabad, India **Aug 2018 - Dec 2018**
- Developed I2C and UART Drivers for ESP32, connected to the Google Firebase on Arduino IDE.
- Worked with a team and developed a home automation system controllable via an android application.
- Designed compact multi-layer PCBs schematics using cadence virtuoso software, which saved 30% of wiring used.

ACADEMIC PROJECTS

Autonomous RC Car **Spring 2020**
- **Hardware / Technologies**: **SJSU-Dev Board (ARM Cortex-M4 based NXP LPC4078), HC-05 Bluetooth Module, SN65HVD230 CAN Bus Transceiver, LiDAR, and ultrasonic sensors, GPS module, FreeRTOS, CMock for Unit Testing, EAGLE PCB Designer, CAN, UART.**
- Built a self-driving car using industrial standard CAN bus protocol with obstacle avoidance and shortest path algorithms to reach a destination. Worked on Bridge & Sensor module to devise the implementation of Bluetooth protocol.
- Developed Android Application using AndroidX Library with Google Maps API.
- Implemented HandlerThreads for Live Location feedback on Map and used Material Design for UI displaying live data.

2D and 3D Graphic Rendering **Fall 2019**
- **Hardware / Technologies**: **MCUXpresso LPX1769(ARM Cortex-M3 based NXP LPC1769), SPI, 120x160 TFT.**
- Wrote SPI interface device driver for TFT LCD and designed 2D based Live screensaver.
- Implemented Transformational algorithms to 3D object's perspectives and reflection gradients.

Ordnance Disposal Rover **April 2019**
- **Hardware / Technologies**: **Raspberry Pi 3 Model B, Apache, H-Bridge L298, PiCam.**
- The rover uses a Raspberry Pi 3 Model B with a local Apache HTTP Server for user end control application and achieved communication via 802.11g for remote control and live camera feed.
- Implemented PWM for a 3-way servo motor arm for dissembling ordinances and H-Bridge L298 for wheel motor movement.