Krishnamoorthy K

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SKILLS

- Raspberry Pi, Arduino, STM32, ESP
- Sensors, Actuators, Controllers
- MQTT, CAN bus, UART, I2C, SPI
- Embedded System, Circuit Design, PCB
- Linux (Shell Scripting)
- Python, C/C++, Node-RED
- MATLAB and Simulink
- LTSpice, KiCad, Fusion360

PROFESSIONAL EXPERIENCE

IOT Developer Trainee   *Feb 2024 - May 2024*
Freshot Robotics, Bengaluru, Karnataka.

- Configured and tested the Idli Bot, automating the packing process to achieve a packing rate of 54 Idlis into 27 boxes within 2 minutes per box, boosting packing efficiency by 40%.
- Tested and calibrated the T-Bot vending machine, optimizing its performance to dispense 6 drink types and 2 cookie varieties.
- Prioritized product 99% consistency and operational efficiency to elevate user satisfaction.

Robotics Engineer Intern   *May 2023 - Jul 2023*
Machani Robotics, Bengaluru, Karnataka.

- Developed and implemented a motor controller for a BLDC motor using the FOC algorithm and CAN bus communication, resulting in 20% reduction in energy usage.
- Improved a 56.25% cost savings per unit compared to commercial alternatives.
- Assembled the robotic arm's mechanical and electronic parts.

PROJECTS

High-Performance IR Detection System for Industrial Environments Applications   *Feb 2024 - May 2024*
Freshot Robotics, Bengaluru, Karnataka.

- Established a 30% reduction in footprint by designing a compact PCB and case for an infrared transmitter and receiver system used in industrial proximity sensing and object detection applications.
- Enhanced performance reliability by developing a sensor resistant to ambient light and enabling native relay switching, resulting in a 40% increase in accuracy and reliability.

Neuromorphic Circuit Design Using Memristive Devices   *Aug 2023 - Jan 2024*

- Research project focusing on the design of neuromorphic circuits, which emulate the nervous system's behaviour with 97% accuracy, specifically for memory applications.
- Expedited simulation runtime by 47.5% in designing a memristive NAND gate through the implementation of the TEAM memristor model, surpassing the conventional Simmons tunnel barrier model.

Smart Aquarium Supervision System   *Sept 2023 - Dec 2023*

- Aquarium management system using IoT for monitoring and controlling water conditions.
- Enhanced fish survival rate by 25% through optimal water level and temperature management and automated feeding schedules.

Voice-Controlled Home Automation System   *Mar 2023 - Jun 2023*

- System integrating voice command technology to automate and control home appliances.
- Successfully integrated with Google Assistant and Alexa, achieving a 40% increase in efficiency for appliance management.

IOT-Based Environmental Health Monitoring System   *Oct 2022 - Jan 2023*

- System leveraging IoT to monitor environmental health parameters.
- Achieved 99.9% uptime in real-time data transmission using the MQTT protocol, ensuring continuous monitoring of humidity, temperature, and air quality.

EDUCATION

Bachelor of Technology in Electronics and Communication Engineering   *Nov 2020 - May 2024*
Manipal University Jaipur, Jaipur, Rajasthan.

- CGPA: 8.41
- Relevant course work: DSD, DSP, MPMC, CMOS VLSI, ADC, Embedded Systems, IOT, MEMS