

PRANAV KUMAR SELVA KUMAR

An Aspiring Hardware Engineer

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Education

Master of Science in Computer Engineering (Electrical Engineering)

Arizona State University

Aug 2024 – May 2026

Tempe, Arizona

B.E. Electronics and Communication Engineering

Chennai Institute of Technology

Sept 2020 – Apr 2024

CGPA: 8.73/10

Relevant Coursework

- Artificial Intelligence
- Python Programming
- Computer Architecture
- Machine Learning
- Embedded Systems
- DS & Algorithms
- Deep Learning
- Digital Electronics

Experience

Tractors and Farm Equipment Limited

Hardware Engineer Intern

Aug 2022 – Dec 2022

Chennai, Tamil Nadu, India

- * Implemented tractor automation, improving efficiency by 30%, Safety by 10%, and reducing labor significantly.
- * Developed precision farming sensors, optimizing agricultural processes and minimizing downtime by 45%.

IoT IoT

Project Intern

Jul 2021 – Aug 2021

Pune, Maharashtra, India (Remote)

- * Created advanced IoT solutions, enhancing performance by 30% with cutting-edge technology.
- * Led successful IoT projects, consistently exceeding client expectations with performance improvement of 20%

Projects

Advanced Video Surveillance in Banking Security using Deep learning | YOLOv7, Darknet Nov 2023 - Feb 2024

- * Designed an Intelligent Video Processing System for banking security, achieving 95% threat detection accuracy..
- * Utilized YOLOv7 and Darknet architecture to process video data 30% faster than traditional methods.
- * Revamped system reliability and reduced false positives by 20%.

ANN Implementation on Raspberry Pi for Signal Processing | Python, TensorFlow, SciPy Mar 2023 - Jul 2023

- * Upgraded signal demodulation accuracy by 25% through implementing ANN on a Raspberry Pi.
- * Achieved a 30% reduction in processing latency by deploying real-time neural network models on Raspberry Pi.
- * Improved energy efficiency by 20% with optimized ANN algorithms for signal processing on Raspberry Pi.

Automated Tractor and Advanced Design in Attachments | IoT, Edge Computing, LoRaWAN Oct 2022 - Jan 2023

- * Increased crop yield by 20% with IoT-enabled smart tractor using NPK sensors for precise nutrient management.
- * Improved fertilizer efficiency by 30% through accurate soil analysis with advanced NPK sensor technology.
- * Boosted farming efficiency by 25% with a cloud-integrated, solar-powered system for automated farming operations.

Technical Skills

Languages: C/C++, Embedded C, Misra C, Python, Assembly Language, Verilog, Rust, Java

Technologies/Frameworks: System on a Chip (SOC), Real-Time Embedded Systems, STM32, Arduino, Firmware Development, ARM Architecture, Altium Designer, Communication Protocols, Machine Learning Integration

Tools: Device Drivers, Keil µVision, Eclipse, TensorFlow, PyTorch, Mbed Studio, Raspberry Pi, Git, MATLAB/Simulink

Leadership / Extracurricular

Student Council

President

Sept 2023 - Mar 2024

Chennai Institute of Technology

- * Led and represented the student body, facilitating communication between 6000 students and administration, and spearheading initiatives to enhance the overall college experience.

TEDxChennaiInstituteOfTechnology

Vice President

Dec 2021 - Mar 2022

Chennai Institute of Technology

- * Executed comprehensive logistics planning for a TEDx event that attracted more than 300 attendees, ensuring seamless scheduling and speaker coordination while generating significant engagement through post-event surveys highlighting high attendee satisfaction rates.

Certifications

ESE101: Embedded Systems Essentials with ARM: Getting Started [Link](#) - ARM, Sept 2023

ESE102: Embedded Systems Essentials with ARM: Get Practical with Hardware [Link](#) - ARM, Sept 2023

PCAP: Programming Essentials in Python [Link](#) - the Python Institute, Jun 2023

CCNAv7: Introduction to Networks [Link](#) - Cisco, May 2023