SREE SIVA NAGA SURYA PRAKASH VEMURI

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PROFESSIONAL SUMMARY

Computer Science graduate student with hands-on experience in IoT systems, machine learning, embedded development, and cloud-based data analytics. Proven ability to design and deploy AI-driven smart energy and automation solutions, including real-time monitoring platforms and scalable IoT architectures. Strong background in applied research, system integration, and performance optimization for smart infrastructure.

TECHNICAL SKILLS

- Programming Languages: C, Java, Python
- Internet of Things: MQTT, Zigbee, LoRa, STM32, ESP8266, ESP32, Arduino UNO, Raspberry Pi, Sensors, Actuators
- Web Technologies: HTML, CSS, Bootstrap, Flask
- Machine Learning & AI: scikit-learn, TensorFlow, Keras, PyTorch
- Databases: SQL, PL/SQL
- Data Analysis & Visualization: NumPy, Pandas, Matplotlib, Seaborn, Power BI, Tableau

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EXPERIENCE

Graduate Research Assistant – University of the Pacific, Stockton, CA (Feb 2025 – Dec 2025)

- Designed and implemented a dual-axis IoT-enabled solar tracking system, improving energy efficiency through real-time feedback and cloud analytics.
- Developed agrivoltaic integration with soil moisture sensing and emergency power systems for dual land usage.
- Engineered self-cleaning and wind-protection modules to enhance panel durability and operational lifespan.

Research Intern – IIIT Hyderabad, India (Feb 2023 – Nov 2023)

- Developed embedded firmware for a solar-powered water-metering device using C/C++ and image-processing pipeline.
- Added firmware features for camera capture, frame preprocessing, and wireless data sync.
- Debugged hardware communication issues and improved power efficiency through firmware optimization.

Project Intern – Atom Software Solutions, Hyderabad, India (Aug 2020 – Nov 2020)

- Developed IoT-based home automation system for remote appliance control and environment monitoring.
- Integrated plant watering and lighting systems using sensors and microcontrollers with mobile control interface.

PROJECTS

- **Air Pollution & Temperature Monitoring System:** Designed IoT platform using ESP8266 & ThingSpeak to monitor PM2.5, CO, and temperature in real time.
- **Agri-Doctor:** Automated irrigation management using soil sensors and mobile app; improved resource efficiency and crop yield.
- **Object Recognition System (YOLOv3):** Trained CNN achieving 95% accuracy for real-time object detection across 80+ classes.

EDUCATION

M.S. in Computer Science – University of the Pacific, Stockton, CA (Jan 2024 – Dec 2025)
B.E. in Computer Science & Engineering – Vasavi College of Engineering, Hyderabad, India (Aug 2019 – May 2023)

PUBLICATIONS

- Integrated Smart Agriculture and Solar Monitoring System Using IoT and Deep Learning Techniques – EE&AE; 2025
- Crop and Yield Prediction using ML and Data Visualization Techniques – ICCPSMLA 2025
- IOT Based Smart Helmet – IJSREM 2022
- Controlling Electric Bulb Through Mobile Based on Light Intensity – ICCIC 2022