S. Kranthi Kumar Chowdary

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Experience

Research Intern — *Surathkal, India*
National Institute of Technology, Surathkal — *May 2024 – August 2024*

- Developed a novel Virtual Network Embedding (VNE) architecture using Horizontal Federated Learning to enhance scalability, privacy, and resource optimization across multi-domain networks
- Utilized the P3Alib Master software for real-time simulation and performance evaluation

Undergraduate Researcher — *Chennai, India*
SRM Institute of Science and Technology — *Jan 2023 – Present*

- Built a real-world operational application with a 93.7% precision rate in identifying and detecting potholes on Indian road surfaces using the YOLOv11 model, enhancing safety and navigation in autonomous vehicles (Mentor: Dr. Preethiya T.)
- Developing a cognitive training platform for ADHD therapy that uses face tracking and eye-gaze detection to dynamically adjust game difficulty based on real-time attention levels (Mentors: Dr. Annapoorani Paniyappan, Professor, Dept of NWC and Dr. Bhasi Sukumaran, Professor and Head, Dept of Medical Science)

Projects

Tejas Vision

- An AI-powered application engineered to enhance road safety on Indian roads by detecting potholes, traffic signals, and 21 other traffic elements with 80.4% precision
- Leveraged YOLOv11 deep learning model specifically tuned for diverse Indian terrains and road conditions

Drought Monitoring & Prediction for South India

- Built an AI model using PyTorch to predict drought risk with Accuracy of 78% over 6,000 satellite samples (MODIS, SMAP, Sentinel-2)
- Integrated novel preprocessing pipeline: cloud removal using HSV masking and TELEA inpainting to enhance input data quality
- Targeted for submission to IGARSS 2026; focused on climatic data analytics in South India

Education

SRM Institute of Science and Technology — *Sept 2022 – Jul 2026*
Bachelor of Technology in Computer Science and Engineering (Cloud Computing)- Chennai

- **Coursework:** Distributed Systems, Cloud Infrastructure, Big Data Analytics, Machine Learning, Computer Networks

Publications

Towards Sustainable Transportation – Prediction of Impacts of Electric and Hydrogen Vehicles Adoption on the Global Environment — Sept 2023
Kranthi Kumar Sariputi
27th International Conference for Sustainable Development Goals (ICSDG) – Extended Abstract

Smart Pothole Detection and Traffic Sign Identification for Indian Roads: A Machine Learning Approach Using YOLOv11 — April 2025
Kranthi Kumar Sariputi, Harshith Y., Preethiya T.
International Conference on Data Science and Business Systems (ICDSBS) 2025 — **Best Paper Award**

Skills

Technical Skills: Python, PyTorch, Computer Vision DL Algorithms, Remote Sensing, Roboflow, AWS, NLP, LaTeX

Soft Skills: Research, Leadership, Collaboration, Ethical Awareness, Adaptability to Interdisciplinary Knowledge

Position of Responsibility

MNC Secretary — IEEE SRM Student Branch — *March 2022 – Present*
Chennai, India

- Led the Media and Content Domain, managing communications and visual branding
- Oversaw event operations for Concepto 2025, ICSDG 2024, and ICSDG 2023