

# Kushal Sri Rangam

Celina, TX | +1 (404) 769-0106 | k\_srirangam@u.pacific.edu | linkedin.com/in/kushal-sri-rangam-a1857b2a0

## EDUCATION

- University of the Pacific** May 2025  
*Master of Science in Computer Science* Stockton, CA
  - Relevant Coursework: Machine Learning, Deep Learning, Advanced Data Analytics, Data Science, Cloud & Mobile Security, DBMS, Visualization & Storytelling
- MLR Institute of Technology** May 2022  
*Bachelor of Technology in Computer Science* Hyderabad, India
  - Focus Areas: Computer Science, Artificial Intelligence, and Software Development

## EXPERIENCE

- Research Assistant – Smart Hat Project** Jan 2025 – May 2025  
*University of the Pacific* Stockton, CA
  - Delivered Flask API (12+ endpoints) and ReactJS + Tailwind dashboard supporting 100+ sessions for live streaming, voice alerts, and configuration updates
  - Led multi-model ML pipeline (MobileNetV2 SSD + RandomForest) with 92% accuracy on 500+ images, reducing false positives by 40%
  - Engineered Edge AI deployment on Raspberry Pi 5 (8GB RAM) with IMU, ultrasonic sensors, IMX500 AI camera, achieving <250ms latency for real-time obstacle detection
  - Architected Firestore schema and secure APIs managing 1,200+ logs with Firebase Storage integration for video uploads and audit trails
  - Conducted 10+ sessions simulating visual impairment to evaluate usability, accessibility, and detection performance

## PROJECTS

- Laureate Lens – Nobel Prize Analysis & RAG Chatbot** ReactJS — Flask — LangChain — FAISS — OpenAI API
  - Crafted ReactJS + Tailwind UI visualizing 120+ years of Nobel data trends by gender, country, age, and category
  - Integrated RAG chatbot using LangChain + FAISS for 50+ NLP query types with semantic search
  - Developed Flask APIs serving 10,000+ standardized records after custom ETL processing
  - Embedded GPT-4 NLP interface improving query accuracy by 35% with optimized response times
- Resume Analysis Web App** ReactJS — Python — Flask — NLP — Charts.js — OpenAI API
  - Created ReactJS UI with Charts.js for real-time keyword match, skill gap analysis, and user feedback
  - Implemented Flask backend with PDFMiner and NLP NER to extract 100+ skills and phrases from resumes
  - Built TF-IDF scoring system to improve resume-job match rate by 25% with clear matchability feedback
  - Integrated OpenAI API to generate personalized resume improvement tips and rewrite suggestions
  - Delivered full end-to-end Web App enhancing ATS compatibility and usability
- NoSQL ETL + Multi-Database Aggregation System** ReactJS — Python — MongoDB — Redis — Neo4j — IndexedDB
  - Assembled Python ETL pipelines unifying 100k+ records from 4+ NoSQL sources with schema normalization
  - Constructed ReactJS dashboard to visualize latency benchmarks and interactive geographic overlays
  - Integrated custom reduce logic supporting 15+ aggregation scenarios for performance comparisons

## TECHNICAL SKILLS

- Languages:** Python, JavaScript (ES6+), SQL, C++
- Frameworks & Libraries:** ReactJS, Flask, Dash, TensorFlow, PyTorch, TFLite, Scikit-learn, LangChain, FAISS, OpenAI API
- ML & AI:** Computer Vision, NLP, Deep Learning, Edge AI, Object Detection, Risk Scoring
- Frontend & UI:** ReactJS, Tailwind CSS, Charts.js, HTML/CSS/JS
- Data Tools:** Pandas, NumPy, Power BI, Matplotlib, Seaborn
- Cloud & Deployment:** AWS (EC2/S3), Firebase (Firestore, Storage), Vite
- Databases:** Firebase Firestore, MongoDB, Redis, Neo4j, IndexedDB, MySQL
- Tools & DevOps:** Git, Jupyter, Docker (basic)
- Hardware:** Raspberry Pi 5, IMX500 AI Camera, Ultrasonic Sensors, IMU, VR Headset

## CERTIFICATIONS & ACHIEVEMENTS

- AWS Academy Cloud Foundations** — Completed April 2025
- IEEE AIIoT 2025** — Co-authored Research Paper Accepted (Smart Hat Project)
- IEEE COINS 2025** — Main Author (Smart Hat 2.0 Research Paper)
- Global AI Hackathon 2025 – All-Ages Team Winner (VisionCap)** — Awarded by MIT RAISE & App Inventor Foundation