

SAILESH KUMAR K L

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EDUCATION

California State University, East Bay
Master's in Computer Science Engineering **CGPA of 4.00/4.00** *Aug,2024 - May,2026*
Vellore Institute of Technology, Vellore
B.Tech in Computer Science Engineering **CGPA of 8.88/10** *Sept,2020 - May,2024*

WORK EXPERIENCE

Research Assistant at California State University, East Bay *Dec,2024 - Present*
• Currently designing and implementing a drone navigation system leveraging Vision Transformers to map accessible sidewalks, aiming to enhance mobility for users with disabilities.
• Developing obstacle detection and path planning algorithms using advanced AI, targeting 90% accuracy in real-time navigation tests for urban accessibility applications, following an agile development approach.

Project Intern at SmartInternz *May,2023 - Jul,2023*
• Co-ordinated the development and deployment of the Plasma Donor app, a robust Online Blood Bank Management system scaling to 1,000+ users with 75% customer satisfaction and HIPAA compliance.
• Designed and facilitated the system using a tech stack comprising Spring Boot, Angular 12, Spring Security, and JWT token-based authentication, collaborating in a scrum-based development environment.

Summer Intern at Dynamic Air Engineering *Jun,2022 - Jul,2022*
• Facilitated backend development for a shipment tracking system, reducing processing time by 40% for tracking 100+ daily shipments.
• Directed enhancements in system functionality and performance by applying REST APIs, Java, and MySQL in 3 development tasks.

PROJECTS

• **SmartLens AI 2.0 – Customer Behavior Analytics SPA.** *Dec,2024*
Developed a cloud-based SPA using the ERN stack, Google Cloud Run, Firestore, Google Vision API, and Facebook Graph API to analyze Facebook and Pinterest images for visual attributes, improving targeted marketing strategies and increasing customer engagement by 30%.

• **Sidewalk Damage Detection and Severity Classification App.** *Nov,2024*
Built an Android app using YOLOv11 in PyTorch for damage detection and a regression model with TensorFlow/Keras for severity scoring, reducing manual inspection time by 60% and aiding city planners in prioritizing sidewalk repairs.

• **WebRTC Video Chat Application with Integrated Real-Time Sign Language Detection.** *Sept,2022*
Directed and communicated the development of a WebRTC-based video chat prototype with integrated sign language identification for the hearing- and speech-impaired, achieving 90% accuracy in hand sign recognition and enhancing accessibility for users in pilot testing.

CERTIFICATIONS AND ACCOMPLISHMENTS

AWS Certified Solutions Architect - Associate *Mar,2025*
Oscar Grant Scholarship Recipient *Jan,2025*
AWS Certified Cloud Practitioner *Jun,2023*

SKILLS

• **Programming Languages:** Java, C++, Python, R, SQL
• **Web Technologies:** HTML, CSS, JavaScript, TypeScript, React, Next.js, Node.js, Express.js, FastAPI, Flask, Spring Boot, Angular, REST APIs
• **Databases:** MySQL, PostgreSQL, Firestore, Datastore, MongoDB
• **Cloud Platforms:** AWS (Lambda, IAM, API Gateway, S3, EC2), Google Cloud (App Engine, Cloud Run, Firestore)
• **Machine Learning:** Scikit-learn, TensorFlow, Keras, Vision Transformers (ViT), YOLOv3
• **Data Analysis & Visualization:** Pandas, NumPy, Matplotlib, Seaborn, Tableau
• **DevOps & Deployment:** Docker, Kubernetes, CI/CD, GitHub Actions, Firebase Hosting, Git

PUBLICATIONS

• Passive RFID Encryption and Decryption using CLI - IEEE I-SMAC. **(First Author)**
• Video Chat using WebRTC with In-built Sign Language Detection - IEEE ICUIS. **(First Author)**
• Checking the Truthfulness of News Channels using NLP Techniques - IEEE IC-RVITM. **(Second Author)**