

K LAXMAN

Software Development Engineer

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EDUCATION

- Indian Institute of Technology Delhi** Jul 2018 – May 2024
B.Tech and M.Tech in Computer Science & Engineering New Delhi, India

WORK EXPERIENCE

- COMPUTER AGE MANAGEMENT SERVICES(CAMS)** Jun 2024 – Present
Software Development Engineer Chennai, India
 - Developed CamsLens, a generative AI platform for financial insights, using Vertex AI (Gemini-flash 2.0), Google Cloud Run, and BigQuery, processing 10,000+ documents monthly with 95% accuracy.
 - Implemented real-time RSS feed ingestion to deliver financial news and update SEBI regulatory updates, reducing manual monitoring and document ingestion for AI query search by 80%.
 - Designed AI-powered query and summarization APIs with domain-specific prompts, improving response time by 60% and ensuring CMEK-compliant storage.
 - Designed and implemented a Ranking Chunks Algorithm for CamsLens, enhancing response relevance by ranking Vertex AI datastore chunks, significantly improving user query quality.
 - Built Stock Exchange Platform with Java Spring Boot, achieving 99.9% uptime and supporting 1,000+ transactions/minute.
 - Optimized database queries and caching mechanisms, reducing API response time by 50%.
- Eamvey Technologies** May 2022 – Aug 2022
Web Development Intern Remote
 - Enhanced Learning Management System (LMS) frontend and backend for 1,000+ users using the MERN stack (MongoDB, Express.js, React, Node.js).
 - Integrated a secure payment gateway, successfully handling 500+ monthly transactions.
 - Improved application performance by 40% through code optimization, bundle splitting, and lazy loading techniques.

PROJECTS

- Stock Exchange Platform** 2024
Java Spring Boot, H2 DB, Spring Security, JWT
 - Developed a full-stack stock trading simulation platform featuring user registration, role-based access control (Admin/User), and real-time order processing.
 - Implemented robust security using JWT (JSON Web Tokens) and Spring Security for user authentication and authorization.
 - Designed a scalable architecture capable of handling 100+ concurrent users with sub-second response times for critical trading operations.
- Borderless Table Recognition and Accessibility in PDF Files** 2023
Python, Layout Parser, MTL-TabNet, OpenCV, SVM
 - Engineered a system for detecting borderless tables in PDF documents using Layout Parser and fine-tuned MTL-TabNet, achieving a 30% accuracy improvement over CascadeTabNet for the RAVI project.
 - Trained an SVM classifier for table cell classification based on geometric features (size, position) and color, reaching 90% accuracy.
 - Integrated the solution as a Docker container into the RAVI framework (under Prof. M. BalaKrishnan) to enhance PDF accessibility for visually impaired users.
- Reading Assistant for Visually Impaired (RAVI)** 2022
Python, Flask, HTML/CSS, JavaScript
 - Contributed to an automated toolchain converting STEM documents (PDFs, EPUBs) into accessible formats using various RAVI processing modules.
 - Developed a Flask-based web application enabling crowdsourcing of ALT TEXT for images within documents, significantly automating the image description process.
 - Improved the accessibility of over 500+ STEM documents, making them usable for visually impaired students and researchers.
- Driver Drowsiness Detection System** 2021
Python, OpenCV, Dlib

- Designed a real-time driver drowsiness detection system using computer vision techniques (facial landmark detection, eye aspect ratio calculation).
- Implemented and optimized the algorithm for potential deployment on embedded systems, achieving over 90% detection accuracy at 30 frames per second (FPS) on test videos.

TECHNICAL SKILLS

- **Languages:** Java (Spring Boot, Spring Security), Python (Flask, FastAPI, OpenCV, Scikit-learn, Pandas, NumPy), JavaScript (Node.js, React)
- **Databases:** MySQL, PostgreSQL, MongoDB, H2, Google BigQuery
- **Web Tech:** HTML5, CSS3, REST APIs, GraphQL, WebSockets, TailwindCSS
- **AI/ML:** PyTorch, TensorFlow, Vertex AI (Gen AI), Layout Parser, MTL-TabNet, spaCy
- **Cloud & DevOps:** Google Cloud (Cloud Run, GCS, Vertex AI), Docker, Kubernetes, AWS (Basic), Azure (Basic), CI/CD (GitHub Actions, Jenkins), Git
- **Tools:** Maven, npm, Postman, GCP SDK, Feedparser, AP-Scheduler, Dlib