Alan Chris D'Silva

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Professional Summary

Forward Deployed Engineer with hands-on experience taking software from problem discovery and technical design through implementation, integration, testing, and AWS deployment. Works across full-stack development, backend APIs, AI/ML, data science, computer vision, cloud infrastructure, cybersecurity, and game development. Focused on building reliable, maintainable software that addresses real operational needs.

Technical Skills

Languages: Python, Java, JavaScript, TypeScript, C++, SQL
AI/ML and Computer Vision: PyTorch, TensorFlow, scikit-learn, XGBoost, OpenCV, YOLO, OCR, CNNs, Transformers, NLP, multimodal AI, model training and evaluation
LLMs and Agents: RAG, semantic search, embeddings, vector databases, Pinecone, Llama 3, MCP servers, n8n
Backend and Full-Stack: FastAPI, Django, Node.js, Express.js, REST APIs, microservices, React, Next.js, Tailwind CSS, HTML5, CSS3
Databases: PostgreSQL, MySQL, MongoDB, Redis, SQLite, Firebase, Supabase
Cloud and DevOps: AWS, Docker, Linux, Git, GitHub Actions, CI/CD, Vercel
Security and Engineering: Nmap, Wireshark, Burp Suite, Kali Linux, vulnerability assessment, penetration testing, data structures and algorithms, OOP, testing, debugging, system design

Professional Experience

Forward Deployed Engineer – Arghyam, Bengaluru *Sep 2026 – Present*

- Core engineering contributor to JalSoochak, India's digital public infrastructure, built with the government; translate field and operational requirements into software across design, implementation, integration, testing, and deployment.
- Built and deployed the electric meter (ELM) model, live in Punjab and Rajasthan with government stakeholders, on a platform supporting 100,000+ users.
- Designed and rebuilt the bulk flow meter (BFM) solution, in use in Assam under the Jal Jeevan Mission, which turns field photos of meters into confirmed, stored, and analysed readings.
- Contributed to application restructuring, modular backend services, APIs, and ML inference workflows; tested end-to-end behaviour and deployed changes on AWS.
- Contribute to FlowVision through AI model fine-tuning, OpenCV-based image workflows, field-image analysis, and electric-meter telemetry.

Intelligent Systems Intern – Larsen & Toubro, Chennai *Apr 2026 – Jun 2026*

- Built LIRA, an LLM-based security log agent, and worked on StressNet, an IoT and ML structural monitoring system (see Selected Projects).
- Developed backend services, modular REST APIs, and data-processing components for engineering workflows, and integrated them with enterprise applications.

Web Technology Lead – Apex Motion (Faculty-Founded Startup), Bengaluru *Jul 2025 – Jun 2026*

- Led development and deployment of a Next.js e-commerce and IoT platform, achieving a Lighthouse performance score above 95.
- Designed reusable full-stack components and CI/CD workflows to support maintainable development and reliable deployments.

Software Engineer – Centre of Excellence in E-Mobility, Bengaluru *Jun 2025 – Jan 2026*

- Developed full-stack EV platforms, analytics dashboards, and partner-management functionality.
- Contributed backend services and multi-tenant architecture to support integrations across platform components.

Software Development Engineer (QA) – Matrix BMS Technologies, Dubai *Apr 2025 – Jun 2025*

- Performed manual, integration, system, usability, and user-acceptance testing for enterprise applications.
- Debugged and validated software, supported security testing, and contributed to SAP Smart Forms and business-process automation.

Selected Projects

JalSoochak – Digital Public Infrastructure Platform jalsoochak.in

- Multi-tenant microservices platform that accepts field data from WhatsApp, mobile, web, and IoT, with AI meter-reading extraction, operator confirmation, and role-based dashboards.
- Core team contributor across model development, application restructuring, backend/API integration, end-to-end testing, and AWS deployment.

LIRA – Log Intelligence and Response Agent (Larsen & Toubro) alanchriss.me/work/lira-ai-log-intelligence

- Built a system security agent for security-log discovery, semantic search, and contextual recommendations, with BGE-M3 embeddings stored in Pinecone.
- Designed modular FastAPI services and retrieval workflows for LLM-based knowledge integration using Llama 3 on Groq.
- **Stack:** Python, FastAPI, BGE-M3, Llama 3, Groq, Pinecone, n8n, Supabase.

VEIL-AI – Vehicle Edge Intelligence Logger github.com/alan61503/VEIL-AI

- Built a vehicle entry and exit logger for Indian number plates, using a fine-tuned YOLOv8n detector with EasyOCR, a Tesseract fallback, and multi-frame confirmation before logging.
- Reached 0.995 precision, 0.990 recall, and 0.995 mAP50 for plate detection on a 202-image test split.
- **Stack:** Python, YOLOv8, EasyOCR, Tesseract, SQLite, Firebase.

StressNet – Structural Stress Prediction System (Larsen & Toubro) github.com/alan61503/StressNet

- Team project monitoring structural stress on tourist bridges, using ESP32 load, temperature, and pressure sensors with telemetry through ThingSpeak.
- Trained an XGBoost classifier on 1,000+ rule-based synthetic records and ran real-time inference, with Power BI and Blynk dashboards for monitoring and alerts.

Gomez Interiors – Business Website gomezinteriors.com

- Built a responsive Next.js and Tailwind CSS website to showcase interior-design services and generate customer enquiries, with a direct WhatsApp contact flow.

Publications

- Co-author, "Digital Twinning of an Electric Two-Wheeler for Real-Time Battery State Estimation and Augmented Reality Visualization," IEEE ICVTTS 2025. ieeexplore.ieee.org/document/11296457
- Co-author, "Efficient Pathfinding in a Maze to Overcome Challenges in Robotics and AI Using Breadth-First Search," IEEE CSNT 2025. ieeexplore.ieee.org/document/10968383

Education

B.Tech., Computer Science and Engineering (Honours, AI/ML) 2023 - 2027
Christ University, Bengaluru CGPA: 8.1/10

Selected Certifications

- AWS Academy Graduate – AWS Academy Cloud Foundations
- IBM – Building Generative AI Applications Using Amazon Bedrock
- DeepLearning.AI – Neural Networks and Deep Learning
- NPTEL – Cloud Computing; Foundations of Cryptography
- Meta – React Basics; Programming with JavaScript
- 26 certifications in total, listed at alanchriss.me/resume

Achievements

- Finalist – Kaspersky HackSky, SAP Labs Hackathon, and Smart India Hackathon.
- Winner – TechX 2026, Syntaxia 2025, and Tech Utsav (2x).