AJITH ELUMALAI

Pomona, CA ✉ aelumalai@cpp.edu 📞 (661) 666-7766 💼 LinkedIn 🔗 GitHub

EDUCATION

Master of Science in Computer Science

CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA | POMONA, CA *Jan 2025 – Present*

Expected Graduation: Dec 2026 | GPA: 3.3

Related Courses: Cybersecurity Analytics, Advanced Data Mining, Advanced GenAI, Autonomous Vehicle System

Bachelor of Engineering in Computer Science

EASWARI ENGINEERING COLLEGE | CHENNAI, IND *Aug 2018 – Jun 2021*

Related Courses: Software Engineering, Computer Networks, Data Structures, Database Systems, AI, NLP

EXPERIENCE

Research Assistant – DiTTA (Digital Twin for Testing & Analysis) | Pomona, CA

Aerospace Engineering Department, Cal Poly Pomona. *Nov 2025 – Present*
- Developing the **project website** and **Unity-**based simulation interface for visualizing experimental and numerical results.
- Collaborating with aerospace researchers to integrate **data pipelines, ML models, and visualization systems** into real-time digital twin simulations

Research Assistant – AVL Lab (Autonomous Vehicle Lab) | Pomona, CA

Computer Engineering Department, Cal Poly Pomona. *Oct 2025 – Present*
- Conducting research on **Reinforcement Learning and Vision-Language Models (VLMs)** for autonomous navigation.
- Implementing and testing algorithms for **path planning, obstacle detection, and decision-making** using **sensor fusion (LIDAR, Optical Flow, and ADS-B)**

Datatuics Solution Technology LLP, | Chennai, IND

Cloud Security Architect *Mar 2022 – Nov 2024*
- Designed and deployed **AWS infrastructure with Terraform** (VPCs, IAM roles/policies, security groups, S3); used Git plan/apply reviews for reliable releases.
- Partnered cross-functionally with engineers and stakeholders to translate requirements into secure, scalable designs **(IAM, segmented VPCs, encryption, audit logging) and clear runbooks**.
- Built **CloudTrail/CloudWatch dashboards** and alarms for latency, errors, and configuration drift; drove data-informed improvements.
- **Independent & cross-functional** Operated in a small, fast-paced team**; partnered with app/SRE to ship secure,** scalable changes and author runbooks/RCAs**.**
- Automation at scale **Ansible rolling patch/upgrade across 50+ servers; least-privilege IAM reviews (30% reduction) across 20+ workloads;** exposure to running services at scale**.**

PROJECTS

Privacy-Preserving Synthetic Data (CTGAN, Python/SDV) *Aug 2025 – Jul 2025*
- Built and developed synthetic healthcare data with SDV's CTGAN model, ensuring statistical accuracy and patient privacy.
- Preprocessed and validated data quality through **encoding, scaling, statistical tests, and ML-based utility** checks to preserve realistic patterns.

Medical Risk Modeling (Python, ML) *Apr 2025 – May 2025*
- **Predicted cardiovascular risks using ML models** on structured clinical datasets, improving patient classification accuracy.
- **Engineered features and applied PCA/KMeans clustering** to create interpretable risk groups for targeted healthcare insights.

SKILLS

- **Scripting:** Python, PowerShell, Linux, Wireshark, Nmap, Burp, basic subnetting/routing/DNS.
- **Security & Monitoring:** CloudWatch/CloudTrail analytics, Splunk (exposure), alert triage, incident notes.
- **Cloud & Tools:** AWS (EC2, IAM, VPC, S3, Lambda, Networking), Docker, Kubernetes, Oracle Cloud, Git, CI/CD pipelines.
- **Vulnerability & Patch:** AWS Inspector & GuardDuty (exposure), OS patching/hardening, baseline configs.
- **AI/ML:** Generative models (SDV/CTGAN/TVAE)**;** ML pipelines & evaluation; basic data engineering.

CERTIFICATION

- IT Security Foundations: Network Security, LinkedIn Learning, 09/2025
- Cybersecurity Analyst Job Simulation, TATA Forage, 01/2025
- AWS Certified Solution Architect, AWS, 2/2023