Aditya Walia

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Profile Summary

- Computer Science undergraduate with strong foundations in data structures, algorithms, object-oriented design, and system development.
- Skilled in Java, Python, and C++; experienced in Spring Boot, React, REST APIs, Docker, and AWS deployment.
- Adept at building scalable, maintainable systems and solving complex, ambiguous problems.
- Quick learner with strong communication and analytical skills; comfortable in fast-paced agile environments.

Experience

Samsung Research *Dec 2024 – Present*
Research Intern — Log Intelligence via RAG and LLMs

- Built a semantic search pipeline using Python and FAISS to analyze internal logs via vector embeddings.
- Integrated REST APIs with a frontend dashboard, enabling real-time insights across 10M+ log entries.
- Reduced manual triage time by 40% by automating retrieval of contextually similar logs using RAG.
- Deployed modules via Docker and Jenkins, adhering to CI/CD best practices and containerized deployment.

Samsung Research *Oct 2024 – Jan 2025*
Research Intern — Lock Screen Validation

- Developed a CNN-based image classifier combined with OCR to validate Android lock screens in real-time.
- Processed and labeled 10K+ mobile screenshots using Dask; achieved 92% accuracy in production.
- Reduced false positives by 35% through iterative model tuning and UX-aligned logic integration.
- Created analytics reports using Power BI; collaborated with UX teams to optimize validation flow.

Projects

- **Full Stack Employee Management System (Java, Spring Boot, React, MySQL)**
  Developed a secure web application with JWT-based login, role-based access, and RESTful CRUD APIs. Integrated MySQL with JPA and deployed on AWS EC2 with Nginx for production scalability.
- **Personal Blogging Website (Next.js, MongoDB)**
  Designed and implemented a markdown-based blogging platform with WYSIWYG editor, dynamic routing, and user authentication. Enabled commenting, session handling, and deployed via Vercel.
- **Link Prediction in Social Networks (XGBoost, LightGBM, Node2Vec)**
  Built a link prediction system for social graphs using Node2Vec embeddings and ensemble models. Developed backend API for edge prediction with 89% accuracy on real-world datasets.
- **EEG-based Deep Learning Analysis (Flask, CNN, Python)**
  Created a deep learning system to classify emotional states from EEG signals. Preprocessed inputs with signal normalization and deployed real-time prediction and visualization dashboard using Flask.

Coding Profiles

- **LeetCode:** Aditya_Walia01 — Solved 500+ problems across arrays, graphs, trees, DP, and system design challenges.

Technical Skills

Languages: Java, Python, C++, JavaScript, SQL, R
Frontend: React, Next.js, HTML, CSS
Backend: Spring Boot, Flask, Node.js, REST APIs
Databases: MySQL, MongoDB, Cassandra, PostgreSQL
Cloud & Tools: AWS, GCP, Docker, Git, Jenkins, MLflow, CI/CD
Core CS Concepts: DSA, OOP, Operating Systems, Algorithms, System Design, Optimization

Education

B.Tech in Computer Science and Engineering
Thapar Institute of Engineering and Technology *2022 – Present*
CGPA: 7.90 (till 5th Semester)