ADITYA KUMAR

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SUMMARY

AI/ML-focused Software Engineering student who builds agentic LLM workflows with LangGraph and LangChain, RAG systems, and reinforcement-learning pipelines, with mobile development experience in Kotlin, KMP and React Native. Open-source contributor and ICPC regionalist.

EXPERIENCE

goAI Solutions June 2026 – Present
AI Engineering Intern *Bengaluru, India*

- Built a 12-phase agentic software-delivery workflow with **LangGraph** (PRD intake, functional requirements, coding, QA, deployment) that generates **React Native** apps; each phase fills a structured template that any LLM can execute, keeping the system model-agnostic.
- Authored a reusable **Fastlane** template (hosted on GitHub) and **Docker** images that standardise React Native build and release across projects.

NewSpace Research and Technologies April 2026 – June 2026
Machine Learning Intern *Bengaluru, India*

- Built a radar threat-recognition pipeline: a **GAN** (∼2.9M parameters) generating synthetic IQ signals for drone, fighter-jet and SAM classes, and a lightweight **CNN** (∼59K parameters) classifier reaching **100% accuracy** on 10K GAN and 1.5K physics-simulated test samples at ∼1.6 ms inference.
- Trained a **PPO** Actor-Critic agent to select jamming actions (noise jam, RGPO, false targets, idle); achieved a **76% optimal-action rate** on clean physics-simulated tests and 65–68% under phase-spoofing, I/Q-swap and time-reversal stress tests, staying idle on dead-air and thermal-noise inputs.

MobileByteSensei October 2025 – December 2025
Backend & AI Intern *Remote*

- Developed **AI agents** for a movie recommendation system and built its database (backend) layer.
- Created the **Docker** images used for deployment and set up **CI/CD** steps for automated build and testing.

PROJECTS

VTU Syllabus & Question-Paper Assistant (RAG) https://github.com/Aditya002500/RAG-QP-Assistant
Python, LangGraph, LangChain, FAISS, PyMuPDF, Tesseract OCR, Streamlit

- Built a **RAG** assistant for syllabus and question-paper search: PyMuPDF with OCR fallback, question-level chunking, BGE embeddings in FAISS, and a 6-node **LangGraph** flow (routing, relevance grading, one rewrite retry, cited answers or refusal).
- Evaluated on a 50-question hand-built set (20 dev, 30 held-out test): **0.88 Hit@5**, **0.68 MRR**, 86.7% refusal accuracy; BGE-small beat MiniLM on dev MRR (0.78 vs 0.54).

CaptureFlow – AI Screenshot Productivity Planner github.com/Aditya002500/Productive
Kotlin, Jetpack Compose, ML Kit, Firebase AI

- Built a native Android app in **Kotlin** and **Jetpack Compose** that uses **ML Kit** and **Gemini via Firebase AI** to turn screenshots into titles, summaries, categories, tasks, notes and reminders.
- Implemented Room offline storage, WorkManager background processing, and Firebase Auth, Firestore and Storage for persistent data and synchronisation.

TECHNICAL SKILLS

Languages: Python, C++, Kotlin, Java, SQL

AI/ML & Agents: LangGraph, LangChain, RAG, FAISS, LLM Agents, PyTorch, scikit-learn, GANs, Reinforcement Learning (PPO), NumPy, Pandas

Mobile: Kotlin, Jetpack Compose, KMP, Coroutines, MVVM, Koin, Room, ML Kit, Firebase, React Native

DevOps & Tools: Docker, Fastlane, CI/CD, GitHub Actions, Git, GitHub, Linux, Postman

Backend & Data: REST APIs, PostgreSQL

EDUCATION

RV Institute of Technology and Management Aug 2023 – May 2027
B.E., Information Science and Engineering *Bengaluru, India*

- CGPA: 8.54/10 | Core Member, GDG on Campus (RVITM); helped organise online campaigns.

LEADERSHIP, ACHIEVEMENTS & OPEN SOURCE

- **Technical Head**, Protatva and Aikyam: two national-level hackathons organised at RVITM.
- **Top 10 Finalist**, Inceptrix 2025 Hackathon (520+ teams), for an agentic app-generation workflow.
- **ICPC Regionalist 2024**: qualified for regionals twice in the same year; solved 200+ LeetCode problems in C++.
- **Open Source:** Mifos Initiative, about 10 merged pull requests across the Kotlin/KMP Android codebase.