

# KARAN UPADHYAY

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## EDUCATION

### University School of Information, Communication and Technology, GGSIPU

August 2022 – June 2026

Bachelor of Technology in Information Technology, CGPA: 8.3/10

Delhi, India

- Relevant Coursework: Object Oriented Programming, Data Structures & Algorithms, Advanced Java, Database Management Systems, Operating Systems, Computer Networks, Web Development, Artificial Intelligence

## TECHNICAL SKILLS

**Languages:** Java, C++, Python, JavaScript, SQL, Solidity

**Frontend:** React, Next.js, HTML5, CSS3, Tailwind CSS, Streamlit

**Backend:** Spring Boot, Spring Framework, Spring Security, Hibernate, REST API, JWT Authentication, Spring AI

**Databases:** MySQL, PostgreSQL, MongoDB, Pinecone, Supabase

**Tools:** Git, GitHub, Docker, Maven, Postman, Vercel, IntelliJ IDEA, Jupyter Notebook, Ethers.js, Hardhat

## PROFESSIONAL EXPERIENCE

### Machine Learning Intern

August 2025 – Present

Infosys Springboard

Remote

- Engineered AI TraceFinder, a deep learning forensic scanner identification system that automated document authentication workflows, reducing manual verification time by 70% and achieving 95% accuracy
- Preprocessed and augmented 4000+ forensic document images from 11 scanners using Pandas and NumPy, implementing class balancing and format standardization that improved model robustness by 40%
- Extracted edge density, skewness, and texture features via OpenCV; trained SVM and Random Forest baseline models achieving 60% accuracy to establish deep learning benchmark
- Optimized CNN architecture with Streamlit UI and Grad-CAM explainability, elevating accuracy from 60% baseline to 95%

### Software Development Engineer Intern

March 2025 – May 2025

Bluestock Fintech

Remote

- Developed React components and REST APIs for fintech portfolio dashboards supporting real-time data updates and improving response efficiency by 40% across team applications
- Overhauled SQL schema through strategic indexing and normalization, decreasing database read latency by 60% and enhancing data retrieval performance
- Implemented ACID principles by managing transaction isolation, resolving join conflicts, and eliminating single points of failure to ensure consistent data integrity
- Designed and executed Postman test suites with custom JSON inputs for 20+ API endpoints, identifying critical bugs that accelerated project delivery by 30%

## PROJECTS

### SpendWise Finance Tracker | React, Tailwind CSS, Spring Boot, MySQL, Spring Security, JWT

GitHub

- Architected end-to-end expense management platform processing 1000+ monthly transactions with categorized tracking using responsive React-Tailwind interface
- Integrated Spring Security filters, JWT authentication, and Spring Data JPA ORM for seamless SQL persistence, achieving 99% authentication reliability with role-based access control
- Implemented Chart.js analytics for real-time financial visualization and deployed scheduled email summaries via Brevo mailer, accelerating insight delivery by 40%

### Asgard Image Vault | React, Solidity, Ethers.js, IPFS, Polygon Blockchain

GitHub

- Developed decentralized image-sharing dApp ensuring 99.9% uptime through IPFS-based permanent, censorship-resistant blockchain storage
- Established encrypted access control integrating MetaMask authentication and key-based permissions on Polygon Amoy test network
- Built fully responsive React interface and optimized Solidity smart contracts for sub-300ms image retrieval with minimal gas consumption

### Mail-Minter Email Assistant | React, Spring Boot, Spring AI, Google Gemini Flash API

GitHub

- Built intelligent email response system reducing average reply time by 85% using Spring Boot with Google Gemini API via Spring AI framework
- Designed Gmail-native extension automating inbox workflows and processing 100+ emails with contextual awareness and adaptive tone
- Achieved sub-1.2s response latency through automated message retrieval and real-time generation of human-like replies

## ACHIEVEMENTS AND CERTIFICATIONS

**Competitive Programming:** Knight on LeetCode (Rating: 1870+, Best Rank: 386) | 2-star on CodeChef (Best Rank: 994)

**Hackathons:** Winner at Dev Challenge 2024 Web3 Track | Finalist at Fetch.ai Agent Hackathon, IIT Patna

**Certifications:** Generative AI & LLM Fundamentals (Google) | Java, Spring Boot & Microservices (Udemy)