UDAY SHARMA

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OBJECTIVE

Software Engineer with 2+ years of internship experience in building systems, seeking full-time Software Engineer roles.

EDUCATION

Bachelor of Science (Honors) in Computer Science   2022 - 2025
University of Delhi   GPA: 7.67/10

EXPERIENCE

Research Engineer Intern   Aug 2024 - Present
SimPPL   *Remote*

- Led the Arbiter team in building a Social Listening Tool, used globally by clients to analyze large-scale social media data.
- Single-handedly developed the initial MVP in 4 months, including system architecture, backend, frontend, and ML pipelines.
- Designed data pipelines for YouTube, Reddit, and Telegram, handling millions of data points daily.
- Developed 3 ML pipelines for advanced analytics, including semantic search over a billion vectors using vector databases.
- Architected and optimized the system, leading to a 75% reduction in cloud infrastructure costs.
- Implemented caching mechanisms, reducing user query response time from 1–2 minutes to under a second.
- Built the Next.js (TypeScript) frontend and designed database models for scalable data management.
- Managed end-to-end deployment with Docker, Nginx, and cloud infrastructure on AWS.

Research Intern   May 2024 - Jul 2024
Indian Institute of Science Education and Research Bhopal   *Remote*

- Reviewed 10+ research papers on biometrics, summarizing findings to identify key advancements and gaps.
- Gained expertise in facial recognition and deep learning, building a strong foundation for biometric applications.
- Developed an automated facial recognition system to identify authorized individuals for building access and lock control.

Research Intern   Apr 2023 - Mar 2024
Sri Guru Gobind Singh College of Commerce   *Delhi, IN*

- Conducted COVID-19 detection research using computational techniques on lung X-rays. [(Publication Link)](#)
- Processed and cleaned 7,000+ medical images, optimizing data for high-accuracy model training.
- Trained a CNN model (VGG-19) on lung X-ray images for detecting COVID-19 achieving 97% diagnostic accuracy.
- Developed a cross-platform Flutter mobile app for medical consultation and automated X-ray analysis during the pandemic.
- Designed and implemented the backend system, including a machine learning pipeline, for real-time X-ray analysis.
- Deployed the backend on Oracle Cloud, ensuring a scalable and accessible platform for medical professionals.

PROJECTS

Micrograd. Built a tiny auto-gradient library in Python from scratch, implementing forward and backpropagation without external libraries. Developed a neural network library using it to train models. [Github](#)

Mojster. Developed a real-time analytics dashboard using Flask, fetching live data from Moj (video-sharing platform) via a reverse-engineered API (using mitmproxy & Python) to generate search-based insights. [Github](#)

GGS Social. Created a college social media platform using Django, designing backend architecture, database models, and a responsive frontend with TailwindCSS for student networking and updates. [Github](#)

SKILLS

Languages	C/C++, Python, JavaScript, TypeScript, HTML/CSS
Frameworks	React, Next.js, Django, Flask, FastAPI, Express.js
Machine Learning	PyTorch, Pandas, Numpy, Matplotlib
Databases	PostgreSQL, MongoDB, Qdrant, Milvus
Cloud	Linux, S3, EC2, Docker, Nginx