

ADITYA VERMA

2024 Graduate, IIT Kharagpur, India

Integrated Bachelors & Masters, Chemistry

Minor in Computer Science & Engineering | Micro in Artificial Intelligence & Entrepreneurship

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ACADEMIC QUALIFICATION

Indian Institute of Technology Kharagpur

Integrated Bachelors & Masters, Chemistry

2019 – 2024

CGPA : 8.5/10.0

EXPERIENCE

AI Engineer, AWL Japan Inc.

May'24 – Present

Tech Stack: C#, .NET, C++, Kotlin, Computer Vision, IoT Devices, MQTT, Azure Web Services, CI/CD

- Developed a core **C# library** supporting diverse I/O & **C++ CV pipelines**, standardizing real-time AI Inference on edge devices
- Engineered a **multi-camera tracking** pipeline with person detection & **face recognition** for persistent **face IDs** across multiple feeds
- Fine-tuned **YOLOv8n** model with **0.826 mAP50-95** for detecting **safety breaches** in real-time, now deployed in a skatepark at Tokyo
- Engineered an edge-optimized YOLOv8n and OCR pipeline for shelf price extraction, achieving **62 FPS inference and 0.961 mAP50**
- Built a platform for deploying & monitoring AI apps, delivering a notable reduction in manpower overheads and **downtime by 20%**

Software Development Engineer Intern, Hypermatter Labs

Aug'22 – Nov'22

Tech Stack: TypeScript, ExpressJS, Web3 SDKs, API Architecture, Web Scraping, Kotlin, Jetpack Compose

- Engineered the **backend** for early versions of **AirPay** app, enabling real-time conversion of **Aptos on-chain assets** to any local fiat
- Architected a real-time data pipeline using **Axios** to fetch live market prices, dynamically computing fiat-to-crypto conversion logic
- Integrated **Web3 SDKs** to authenticate wallets via mnemonics, querying RPC nodes to instantly verify on-chain collateral for users
- Developed low-latency APIs utilizing **BCS serialization** to programmatically execute & sign on-chain smart contracts to move funds

Software Development Engineer Intern, Krishi Network

Jun'21 – Aug'21

Tech Stack: Python, Flask, PostgreSQL, Redis, AWS S3, ETL, REST APIs

- Engineered the **Flask backend** for Gram Pracharak, scaling the infrastructure to reliably serve **10,000+ rural users** across India
- Developed robust **data migration scripts** to process and route high-volume lead data, driving a **30% increase** in engagement
- Optimized API latency for low-bandwidth regions by implementing **Redis caching** and efficient **PostgreSQL** backend pagination
- Architected secure ingestion pipelines for **multimodal data**, integrating AWS S3 for media uploads and **Aadhaar KYC** verification

PROJECTS

SachAI - WhatsApp Assistant for Curbing Misinformation

Jan'26 – March'26

Tech Stack: Python, Flask, Qdrant, RAG, Web Scraping, Multilingual LLMs, SynthID, Webhooks

- Engineered a **multilingual RAG pipeline** using **Qdrant** & web scraping to fact-check WhatsApp messages against trusted sources
- Architected a **LLM driven filter** to isolate & respond to conversational text, routing only verifiable claims to optimize compute costs
- Developed a **multimodal verification pipeline** leveraging **SynthID** and metadata to accurately flag AI-generated deepfake media

PocketNinja - Crowdsourced Grocery Price Tracker

Oct'25 – Dec'25

Tech Stack: Python, Flask, Vision LLMs, OCR, Entity Resolution, Prompt Engineering

- Engineered a **multimodal vision pipeline** combining **OCR** and **LLM** to parse crowdsourced receipts & validate metadata authenticity
- Architected an **LLM-driven entity resolution** pipeline using dynamic context injection to normalize Japanese script variations
- Deployed a bilingual platform, scaling user adoption to process crowdsourced receipts & delivered **¥40,000** in accumulated savings

ConnectKGP - Pseudonymous Social Media Network

Feb'24 – May'24

Tech Stack: Golang, Python, WebSockets, WebRTC, LLM Prompt Engineering, Microservices

- Pioneered a real-time pseudonymous social platform using **WebSockets** and **WebRTC** for low-latency peer-to-peer communication
- Architected a high-concurrency **Golang backend** to manage persistent connections, reliably routing live messages for **500+ users**
- Deployed an **autonomous LLM moderation pipeline** to analyze public posts, dynamically filtering policy violations in real-time

AWARDS & ACHIEVEMENTS

- Solved over **500+ DSA** problems achieving an **Expert** rank on **Codeforces** and **5-star** rating on **HackerRank** platforms
- Secured a global ranking of **2502** (Top 8%) in **Google Kick Start 2022** Round D out of **30,000+** participants worldwide
- Completed **Hacktoberfest** challenge twice, collaborating on **25 accepted PRs** across 10 distinct open-source repositories

TECHNICAL SKILLS & RELEVANT COURSEWORK

Programming Languages: Python, C#, C++, JavaScript, TypeScript, Golang, SQL, YAML

Applied AI & ML: RAG Pipelines, LLMs, VLMs, VectorDBs, Computer Vision, Fine-Tuning, Prompt Engineering, Evaluations

Backend & Frameworks: Flask, .NET, Node.js, ExpressJS, KMP, Microservices, WebSockets, REST APIs, ReactJS, PyTorch

Databases & Cloud: Qdrant (Vector DB), PostgreSQL, Redis, MongoDB, AWS, Azure, Docker, Bash Scripting, CI/CD Pipelines

Relevant Coursework: Machine Learning Foundations & Applications, Big Data Processing, Digital Image Processing, Design & Analysis of Algorithms

EXTRACURRICULAR ACTIVITIES

- Social Work:** Led a team of **39 students**, spearheading initiatives like **educating rural children** and tree plantation drives
- Mentorship:** Mentored **10 freshmen** students at IIT KGP ensuring their all-round academic, social and personal development
- Esports:** Won **Valorant Gaming Tournament** at IIT KGP, outplaying more than 30 teams while playing as an In-Game Leader
- Artistic Endeavors:** Worked as cinematographer & editor on **2 short films**, also organized multiple photowalks for beginners