

Ishika Bhaumik

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Education

University of California, Davis, M.S. in Computer Science
KIIT University, B.Tech in Computer Science

Sep 2024 – Jun 2026
Jun 2018 – May 2022

Skills

Languages: Java, Python, C++, JavaScript, TypeScript, SQL

Backend: Spring Boot, REST APIs, Microservices, API Design, Distributed Systems

Frontend: React, HTML5, CSS, Responsive Design

Cloud & DevOps: AWS (EC2, S3, Lambda), Docker, Kubernetes, CI/CD (Jenkins, GitHub Actions)

Databases: MySQL, PostgreSQL, Snowflake, NoSQL, Data Modeling, Query Optimization

Caching & Messaging: Redis, Caching Strategies, Message Queues (Kafka concepts, SQS)

Systems & Design: Concurrency, Multithreading, Rate Limiting, Idempotency, System Design

Monitoring & Reliability: Logging, Debugging, Performance Tuning, Observability

Work Experience

Associate Software Engineer, Novartis, Hyderabad, India

Aug 2022 – Aug 2024

- Built and deployed full-stack applications using **React, Java, and Spring Boot**, supporting **4,000+ users** in production environments.
- Designed and implemented scalable **REST APIs** and backend services, improving system performance and reducing latency by **30%**.
- Optimized data pipelines and SQL queries, improving response times and system efficiency under concurrent workloads.
- Diagnosed and resolved production issues across distributed services using logging, monitoring, and debugging techniques.
- Contributed to CI/CD pipelines and containerized deployments using **Docker and Kubernetes**, ensuring reliable releases and system stability.

Software Engineering Intern, Novartis, Hyderabad, India

Jan 2022 – Jun 2022

- Built **Python** and **TensorFlow** ML pipelines for analyzing **100K+** records, automating preprocessing and experiment validation.
- Designed repeatable ML workflows to support consistent model training and evaluation across datasets.

Software Engineering Intern, HighRadius Technologies, Hyderabad, India

Jun 2021 – Dec 2021

- Built React dashboards integrated with **REST APIs** and **Snowflake/SQL** pipelines, supporting analytics workflows for **50+ users**.
- Optimized backend queries and data processing pipelines, reducing latency by **30%**.

Projects

WaitWhat.ai — *Python, TypeScript, JavaScript, Gemini API*

- Built an AI-powered system to analyze pitch clarity using **Python and Gemini API**, providing actionable feedback on structure and delivery.

Gas-Fee Mechanism in ResilientDB — *C++, GraphQL*

- Designed and implemented a **gas-fee-based resource metering mechanism** in a Byzantine Fault Tolerant distributed database using **C++**.
- Improved system scalability, fairness, and protection against abuse under high concurrent workloads.
- Exposed system data using **GraphQL**, enabling structured querying and observability of distributed transactions.

SafeWalk — **AI Safety Companion** — *React Native, TypeScript, LLM APIs, Google Maps API*

- Built a mobile app providing a real-time **AI safety companion** using LLM APIs for continuous user interaction during travel.
- Integrated **Google Maps API** for live location tracking and context-aware safety monitoring.
- Implemented asynchronous workflows to trigger alerts based on inactivity or safety conditions.

Automated Web Vulnerability Scanner — *JavaScript, Python, OWASP ZAP*

- Built a Chrome extension integrating with the **OWASP ZAP API** to automate vulnerability scanning with retry logic, throttling, and structured security reporting.

Leadership & Achievements

- Awarded **Best Innovation Project** at Novartis for a Python and SQL automation system reducing reporting time from **four days** to **one hour**.
- Mentored students and led coding labs, code reviews, and debugging workshops as a Teaching Assistant.