

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 – Mar 2026
Jun 2018 – May 2022

Skills

Languages: Java • Python • JavaScript • TypeScript • C++ • Swift • HTML5 • CSS3

Frameworks & Technologies: React • Spring Boot • Struts • REST APIs • GraphQL • Docker • Kubernetes • TensorFlow

Databases: SQL • Snowflake • MongoDB • Firebase

Cloud: AWS (EC2, S3, Lambda) • CI/CD • Linux

Version Control: Git • Bitbucket

Concepts: Machine Learning • Microservices • Distributed Systems • Data Structures • NLP • Prompt Engineering

Tools: Jira • Claude/Cursor (workflow assist)

Work Experience

Associate Software Engineer, Novartis, Hyderabad, India

Aug 2022 – Aug 2024

- Built KPI monitoring applications using **React**, **Spring Boot**, and **SQL**, serving more than **4,000** daily users and reducing manual reporting by **80%**.
- Developed and integrated **REST APIs** with pagination and rate-limit handling.
- Containerized backend services with **Docker** and supported deployment of Spring Boot workloads on **Kubernetes**, improving reliability and consistency.
- Optimized Spring Boot APIs using **SQL tuning**, caching improvements, and concurrency fixes to improve latency and throughput.
- Developed analytics workflows using React, SQL, and **TensorFlow**, improving reporting efficiency by **40%**.
- Engineered a **Python**, **NLP** and **SQL** automation system that reduced regulatory report processing time from **4 days** to **1 hour**.

Software Engineering Intern, Novartis, Hyderabad, India

Jan 2022 – Jun 2022

- Developed machine-learning pipelines using **Python** and **TensorFlow** to analyze pharmaceutical datasets and identify degradation patterns.
- Containerized ML workflows with **Docker** to ensure reproducibility across compute environments.

Software Engineering Intern, HighRadius Technologies, Hyderabad, India

Jun 2021 – Dec 2021

- Built an executive analytics dashboard using **React**, **Snowflake**, and **SQL**, supporting analysis of a **50 million dollar** receivables pipeline.
- Refactored ETL and SQL workflows in Snowflake, reducing report-generation latency by **30%**.
- Containerized tools with **Docker** and supported Kubernetes staging deployments.

Projects

CT Scan Image Quality Prediction Framework — *Python, Pandas, NumPy, Matplotlib*

- Designed a metadata-driven framework in **Python** to predict CT **image-quality metrics** (Noise, CNR, MTF) using multi-institutional phantom data, enabling **IQ-based cohort selection** and improving the robustness of **AI-driven** medical imaging analysis.

Trending Tech Stack Analyzer — *Python, Spring Boot, React, SQL, AWS*

- Built a full-stack platform using **Python**, **Spring Boot**, **React**, and **SQL**, exposing modular REST APIs for analyzing emerging tech trends.
- Deployed backend on **AWS EC2** and automated ingestion using **AWS Lambda** and **S3**.

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.

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

- Implemented a gas-fee-based resource metering mechanism inside the ResilientDB BFT pipeline using **C++** and **Python** to prevent denial-of-service attacks and ensure fair compute usage.

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.