Ishan Gupta

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Summary

Graduate student in Artificial Intelligence at Northeastern University with 3 years of software engineering experience at Roche. Skilled in building scalable systems using Java, Python, JavaScript, and AWS, with hands-on experience in machine learning and data-driven applications.

Education

Northeastern University **September 2025 – May 2027**

Master of Science in Artificial Intelligence

- **Relevant Coursework:** Artificial Intelligence, Algorithms, Advanced Machine Learning, Deep Learning, Computer Vision, Natural Language Processing, Reinforcement Learning and Sequential Decision Making

ZHCET, AMU **August 2018 – May 2022**

Bachelor of Technology in Computer Science

- **CGPA:** 9.38

Skills

Languages: Java, Python, JavaScript, TypeScript, C++
AI/ML Tools & Libraries: PyTorch, TensorFlow, Scikit-learn, Qiskit, OpenCV, NumPy, Pandas
Frameworks & DBs: Spring Boot, Node.js, React, MongoDB, PostgreSQL, DynamoDB
Cloud & DevOps: AWS (EC2, S3, Lambda, RDS, SQS, ElastiCache, CloudWatch, MSK), Docker, Jenkins, Git, Linux CLI
Core Competencies: API Design (REST, GraphQL), Data Pipelines, CI/CD, Authentication & Authorization (OAuth 2.0, OIDC), Object-Oriented Programming, Deep Learning, NLP, Prompt Engineering

Work Experience

Roche Information Solutions **May 2022 – September 2025**

Software Engineer *Pune, India*

- Engineered core features in access control, tenant hierarchy, user roles, and authentication across multiple modules and products serving 250k+ users in production, integrating frontend components with React and TypeScript
- Designed and developed scalable microservices using Java (Spring Boot), JavaScript, Python, Node.js on AWS Cloud, including a high-throughput notification system serving 10M+ users
- Optimized system performance by cutting a critical query's response time from 300 milliseconds to 19 microseconds, resolving a major bottleneck affecting multiple APIs
- Implemented ML-driven modules for behavior analysis and anomaly detection using Python and AWS services, strengthening the platform's AI capabilities and monitoring efficiency

University of Lethbridge **June 2021 – August 2021**

Mitacs Globalink Research Intern *Lethbridge, Canada*

- Performed quantum simulations on IBMQ physical quantum computers to record the probability of a quantum miner beating a classical miner during race conditions in the blockchain network
- Developed Grover's circuit using Qiskit, a Python SDK for quantum simulations and optimized the oracle method, lowering memory usage by 80% for improved performance

Guavus (Thales Group) **June 2021 – November 2021**

Software Developer Intern *Gurgaon, India*

- Implemented a single pluggable component to ingest data from Azure Data Lake Storage using Apache VFS in SQLStream, a SQL standards-compliant, Java stream processing platform
- Automated the deployment and testing process for ADLS source and sink plugins using Nimble framework for continuous integration
- Improved the performance of ADLS source component by reducing initialization time by 70%

Projects

Route Planner

- Built a data-driven route-planning system in Python that models real city maps to compute and visualize efficient travel paths across multiple destinations

Blockchain-based Decentralization

- Built a platform to assist developers in building decentralized applications by providing a customizable, ready-made backend that integrates seamlessly with their applications

Awards and Achievements

- Winner at AMURoboHack 1.0: Won first prize in a hackathon organized by AMU Roboclub
- Selected for the distinguished Mitacs Globalink Research Scholarship 2021 awarded by Government of Canada for carrying out research at University of Lethbridge, Canada
- 4-star rated coder at CodeChef (Competitive Programming)
- Secured an All India Rank of 36 in the AMU entrance examination