

# ARUP CHAUHAN

Chicago, Illinois | +1 (312) 493-0181 | [achauhan4@hawk.iit.edu](mailto:achauhan4@hawk.iit.edu)  
[linkedin.com/arupchauhan](https://www.linkedin.com/in/arupchauhan) | [github.com/Arup-Chauhan](https://github.com/Arup-Chauhan) | [arupchauhan.com](https://arupchauhan.com)

## EXPERIENCE

**Software Engineer** Chicago, Illinois  
IIT-DB Group Research Lab, Illinois Institute of Technology | *Python, C++, PostgreSQL, TensorFlow, Docker* May 2024 - Present

- Designing **SQL** query execution plans **optimized at systems level**, focusing on **cost estimation** and **execution times**
- Leveraging **ML techniques**, including **Deep Q-Networks** and **Support Vector Machines** to enhance query plan selections
- Benchmarking query execution and system performance on a **10M multidimensional dataset** via custom C++ module to **achieve a 25% reduction in execution time**

**Application Engineer (Content Systems Development)** New Delhi, India  
Hindustan Times through Four C Plus (Internet) Co. Ltd. | *Java, Spring Boot, RESTful APIs, OODB* Oct 2019 - Apr 2022

- Developed and maintained an **event-driven content publishing service** in Java and Spring Boot, automating content scheduling and periodic publishing via CDN (Akamai), **optimizing workflows by 30%**
- Integrated social media **content publication interface** into Web CMS via RESTful APIs secured with OAuth 2.0, **amplifying reach, engagement, and platform traffic by 20%**
- Refactored **backend services** for database upgrade with Hibernate ORM, **reducing transaction latency by 15%**

**Application Engineer (Data Systems Optimization)** New Delhi, India  
Hindustan Times through Four C Plus (Internet) Co. Ltd. | *Java, ExecutorService, JMS, OODB, JUnit* Jul 2018 - Oct 2019

- Created a suite of Java **servlets to perform data transformation** into a proprietary object database schema format
- Designed a **multithreaded data ingestion pipeline** within the servlet architecture, leveraging Java's ExecutorService to parallelize data processing tasks, resulting in a **35% increase in data processing speed**
- Implemented and maintained a **transaction integrity monitoring service** via JMS to log and manage operations performed by servlets on the import server database, enhancing **operational visibility by 10%**

## PROJECTS & OPEN SOURCE CONTRIBUTIONS

**Microsoft C++ Standard Library (STL)** | *C++, Python, CMake* Microsoft ([Open Source](#))

- Optimizing feature branches of `flat_map` and `flat_set` data structures for **code conformity**. Previously: **refactored skipped integration tests** to investigate root causes and restructured STL system header files for versioning

**Spotify Backstage Framework** | *TypeScript (React), Storybook.js, Node.js* Spotify Backstage ([Open Source](#))

- Fixed **application render logic errors** in a core user management component, reinforcing component stability across the Backstage. Conducted **code review** to resolve project dependency inconsistencies, ensuring alignment with the main project

**Realtime Notification System** | *Golang, MySQL, Redis, Docker* [Project Link](#)

- Built a real-time notification system in Golang, using Redis for **event-driven messaging** and MySQL for storage. Reduced the **processing latency by 35%** with Go **concurrency model**. Deployed with Docker for **consistent environment replication**

**Information Retrieval System** | *Python, Flask, Scikit-Learn, MongoDB, RESTful APIs* [Project Link](#)

- Developed a **focused search engine** using TF-IDF (Scikit-Learn), Scrapy and MongoDB, built via Flask RESTful APIs. Utilized Amazon CloudFront for **CDN-based scalability**, achieving an **average API response time of 200ms**

## HIGHLIGHTS

- Dan Kohn Scholarship: The Linux Foundation, 2024
- Graduate Pathway Scholarship: Illinois Institute of Technology, 2023
- Founding Member of Graduate Executive Team for ML@IIT: The Machine Learning Club at Illinois Institute of Technology, 2023

## EDUCATION

**Master of Science - Computer Science** Chicago, Illinois  
Illinois Institute of Technology Aug 2023 - May 2025  
Relevant Coursework: Advanced Database Organization, Design and Analysis of Algorithms, Operating Systems

**Bachelor of Technology - Computer Science & Engineering** Lucknow, India  
Dr. A.P.J. Abdul Kalam Technical University Aug 2014 - May 2018  
Relevant Coursework: Data Structures, Distributed Systems, Software Engineering

## SKILLS

**Technologies** - Python, Java, C/C++, Golang, TypeScript, JavaScript, HTML, CSS, YAML, JSON, Spring Boot, Flask, Node.js, Next.js, React, TensorFlow **Databases & Platforms/Tools** - PostgreSQL, MySQL, MongoDB, Firebase, Elasticsearch, Git, GitHub, Docker, GCP, Postman, JIRA, Hibernate, JUnit, Selenium, GitHub Actions, CMake **Engineering Practices** - RESTful APIs, Microservices, Agile, SDLC, Test-Driven Development, CI/CD, Containerization