Shubhi Jain

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Education

University of Illinois, Urbana-Champaign — Illinois, USA
Masters in Computer Science — *Aug 2022 – Present*
- Course Assistant: Database Systems (Summer 2023)

Birla Institute of Technology and Science — Pilani, India
B.E. (Hons.) Computer Science and M.Sc. (Hons.) Mathematics — *Aug 2015 - Aug 2020*
- CGPA: 9.29/10
- Mathematics Department Rank 2

Work Experience

Oracle IDC — Bangalore, India
Member Of Technical Staff — *Sep 2020 - July 2022*
- **Pipeline Automation and Tracking**:
  - Designed and developed an end-to-end automation consisting of 3 tiers and each tier made of several stages to create testing environment.
  - Implemented error tracking along with facility to trigger the automation from any intermediate step.
  - The automation improved the time required to create the environment by almost 3 times.
- **Product Pipeline Visualisation**:
  - Added expected and actual timing metrics data of each stage of the product pipeline to the display.
  - Maintained a separate database for timing metrics so as to not affect the site load time.

Confluent Inc. — Bangalore, India
Software Developer Intern — *Jan 2020 – June 2020*
- **Protobuf Converter for Kafka**:
  - Designed and developed a Protobuf converter for Apache Kafka which consumes binary streaming data from Kafka and writes it to Google BigQuery without any loss.
  - The converter removed the requirement of an intermediate external storage for unconverted binary data.

Academic Projects

Write Optimized Chain Replication — UIUC, Illinois
Advanced Distributed Systems — *Jan 2023 – Present*
- Studied and implemented Chain Replication - a sequential replication protocol that tolerates $n - 1$ failures in presence of n servers. Also studied and implemented CRAQ, read optimized version of Chain Replication.
- Proposed a new design which improved the latency and throughput of both Chain Replication and CRAQ by 20%.

Exploiting Nil-externality in Message Queues — UIUC, Illinois
Cloud Storage Systems — *Jan 2023 – May 2023*
- Replaced the existing replication protocol (Raft) in Apache Kafka with a new protocol (Skyros) that exploits nil-externality - a property specific to blind updates.
- The new design improved the latency of Kafka by more that 100% in case of non-batched setup by about 25% with batched input.

Web Application for Airline Delays — UIUC, Illinois
Database Systems — *Jan 2023 – May 2023*
- Created a web application from scratch to display the Airline delay probabilities so users can book flights with minimum delays.
- Added functionality for users to provide their reviews based on flight experience and also incorporated delays in the calculation of airline ratings. Seed data for reviews was fetched by crawling the internet

Skills

Languages: Java, Groovy, SQL, C++, C, Python, JavaScript
Frameworks and Technologies: Oracle RDBMS, Springboot, CI/CD, DevOps, Apache Kafka, Kubernetes, MongoDB, NodeJS

Courses

Course Work: Cloud Storage Systems, Advanced Distributed Systems, Graduate Algorithms, Algorithms for Big Data, Operating Systems, Database Systems

Honors and Awards

INSPIRE Scholarship: Conferred by the Department of Science and Technology, Govt. of India, from Aug 2015 to Aug, 2020, for being among the top 1% of nationwide high-school scorers.

Main Hoon Beti (Young Society Leader): Certificate of Excellence awarded by Minister of Uttar Pradesh for leading against alcohol and drug abuse.