

# Abhinav Singh Chauhan

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## EDUCATION

### Stony Brook University, New York

#### Master of Science in Computer Engineering

• **Coursework:** Distributed Systems, Computational Models for Computer Engineers, Networking Algorithms and Analysis

Stony Brook, NY

Aug '22 - Present

### Birla Institute of Technology and Science (BITS), Pilani

#### Bachelor of Engineering (Hons.) in Electronics and Instrumentation

• **Coursework:** Computer Programming, Discrete Mathematics

Goa, India

Aug '15 - May '19

## EXPERIENCE

### Target

#### Software Development Engineer, Core Commerce Target Tech

- Designed Kafka Consumer Segregation design for "Order Pick Up" and "Ship from Store" flows achieving 20 percent increment in the microservice scalability.
- Redesigned Target's "Real-Time Order Modification System" facilitating guests with possible substitute items while placing the orders; led to 30 percent load reduction on the release microservices.
- Collaborated with the Payments team to develop SNAP EBT payments capability resulting in a 20 percent increase in SNAP digital sales.
- Deployed a digital event loader microservice achieving a 30 percent reduction in delivery time of Digital Download orders.
- Consolidated snapshot loader and order loader microservice for consuming events from different microservices; and updating the order database, reducing optimistic deadlock exceptions from 2k to less than 100 per day.
- Implemented the database transaction flow for fetching, and updating the order DB in a single update, attained 50 percent less database calls.
- Developed an automation suite for integration testing of order modification repromise and substitution design, instrumental in 100 percent automation of integration tests in end-to-end order flows.
- **Tech stack:** JAVA, SpringBoot, Apache Kafka, REST API, GIT, JUnit, Mockito, JDBC, Oracle DB, Mongo DB, Docker

Bangalore, India

Jul '19 - Jun '22

### UST Global

#### Software Research Intern

- Attained 100 percent automation of "Intelligent Loan System" using REST API to deliver insurance claims to BMW clients on the basis of database-generated profiles.
- Analyzed distributed ledger technology focusing on HashGraph, which is 50k times faster than Blockchain.
- **Tech stack:** JAVA, Python, SpringBoot, REST API, GIT, Docker

Trivandrum, India

Jul '18 - Dec '18

## PROJECTS

### Replicated State Machine - Raft

- Implemented Raft, a replicated state machine protocol to design a fault-tolerant key/value storage system.
- Executed a set of Raft instances communicating with Remote Procedure Calls (RPC) to maintain replicated logs.

Sep '22 - Oct '22

### Thread Safety in Multi-Threaded Microservice Architecture

- Implemented a WorkFlow Executor model to analyze thread safety in a multi-threaded processor achieving a 20 percent efficient processing.

Aug '20 - Oct '20

### BITS Pilani, Research Assistant with Prof. Bharat M Deshpande

#### Web Data Mining and Collaborative Filtering for Personalization of Web Search

- Demonstrated a 12 percent higher average F-measure in comparison to web search engines using personalization algorithms.

Goa, India

Feb '19 - May '19

### Generation of User Interest Profile for Web Search Personalization

- Developed a DCIT tree enhanced through collaborative filtering and generated content improved 10.5 percent average precision and 12.4 percent increment in average recall compared to personalized results of web search engines.
- Achieved personalized results on ranking of web pages using recommendation system and summarization model with a precision accuracy of 70 percent.

Jan '18 - May '18

### Analysis of Page Rank Algorithm

- Compared the Page Rank Algorithm and the User Preference Algorithm to evaluate the accuracy of mathematical models, and concluded that Page Rank had a 40 percent higher accuracy than User Preference Algorithm.

Aug '17 - Dec '17

## SKILLS AND CERTIFICATIONS

- **Programming and Algorithms:** JAVA, C++, SQL, PostgreSQL, MapReduce, RPC, Raft Consensus Algorithm
- **Technical Skills:** SpringBoot, Apache Kafka, REST API, GIT, JUnit, Mockito, JDBC, Oracle DB, Mongo DB
- **Certifications:** Data Structures and Algorithms Specialization, Object Oriented Programming in JAVA Specialization