

Karan Chopra

Software Engineer | karanc4@uw.edu | +1-646-392-5451 | [LinkedIn](#) | [GitHub](#) | <https://karanchopra1996.github.io/>

EDUCATION

University of Washington, Bothell, WA | *Master of Science, Computer Science & Software Engineering*
Guru Gobind Singh Indraprastha University, India | *Bachelor of Technology, Information Technology*

Sep 2022 - May 2024
Aug 2014 - May 2018

WORK EXPERIENCE

Software Engineer, Accenture, India

Apr 2020 – Aug 2022

- Elevated user engagement by 25% and improved operational efficiency by 20% over 6 months by seamlessly integrating 15+ third-party services into a client's web application using **Java**, **Spring Boot**, and **MS SQL**.
- Engineered interactive, responsive **React JS** dashboards for enhanced user experience, boosting engagement and saving 15% time.
- Designed a highly scalable **Apache Kafka** streaming app processing 200K-500K topics daily, reducing backend server workload.
- Developed **RESTful** APIs serving data in **JSON** to **front-end** based on changing user inputs handling over 30,000 users.
- Wrote **PowerShell** script analyzing network load on MS SQL database, notifying bottlenecks, resulting in 30% less downtime.
- Constructed **Jenkins** script to automate **CI/CD** pipelines to build, test, and deploy processes, reducing time by 20%.
- Built **JUnit** test cases in **Java** to detect defects early in the development phase resulting in increased code coverage by 35%.
- Led **GitHub** Wiki documentation and **code reviews**, resulting in consistent code, 20% fewer errors, and a 15% code quality boost.

Associate Software Engineer, Accenture, India

Oct 2018 – Mar 2020

- MF Cataloging: Moved the Mutual Funds (MF) catalog from **SQL** to Elasticsearch via **Spark SQL** with UDFs, data frames, etc. with scheduling and monitoring on **Apache Airflow** resulting in load reduction on the master database and faster API response by 40 percent.
- MF parsing: Programmed an innovative parsing system for Annual Maintenance Contract [AMC] statements, incorporating Gmail integration for automated tracking and retrieval of statements. Integrated the parsing module with **AWS SQS** message queue, enabling retry, processing, and auditing of failed messages.
- Implemented **REST APIs** with **Spring Boot** and **Hibernate**, enhancing event management and propelling a 40% improvement in coordination and a 30% user increase in the client platform's event module over 6 months due to improved usability and functionality.
- Used **CSS3**, and **HTML5** for design/animations and **Redux**, **RESTful** APIs for efficient state/data management saving 9% time.
- Ensured top-notch code quality and scalability through comprehensive unit testing with **Mockito**.

Software Engineering Intern, National Informatics Centre, India

May 2017 – July 2017

- Crafted validation forms on **.NET** framework with **HTML**, **CSS** for UI, and stored procedures in **MS SQL server** reducing user input errors by 25% and boosting data retrieval speed by 15%.

PROJECTS

- **Canvas Learning Tool (Python, Flask, Redux, React, Kanban, Agile, and MS Azure)** [Ongoing] - The tool used in the university by faculty to interact with the students, currently working on this project to extend the features, make the website open source and live, create **CI/CD pipelines**, and perform acceptance testing. Practicing Agile Methodologies, **full stack development**, using MS Azure as the service base, and Kanban board for tracking progress.
- **P2P Online Tic Tac Toe (Java, JFrame, JSCH, and Java Socket)** - A networked Tic Tac Toe game for real-time play between remote users or a single user against an automated opponent, utilizing Java Socket connections.
- **Flight Data Analysis (Java, JSCH, Apache Storm, HTML, and Zookeeper)** - Performed **distributed data streaming** and analysis of the flight data to measure the traffic at airports in the US using Storm framework along with Zookeeper coordination service for cluster management.
- **Local vs. Remote Execution of Hazelcast-based inverted indexing (Hazelcast, Java, and JSCH)** - The project features two Hazelcast-based inverted indexing programs: one for counting word occurrences in files, and another using **remote execution** on cluster nodes to analyze performance.

SKILLS

Languages:	Java, Python, C++, C, JavaScript, HTML, CSS, SQL, C# and .Net.
Cloud:	Amazon Web Services (AWS): AWS Elastic Beanstalk, AWS Lambda, AWS ELB, Amazon Cognito, Amazon Kinesis, Amazon DynamoDB, Amazon EC2, Amazon VPC, AWS IAM, Amazon SQS, Amazon RDS, Amazon SNS and Amazon S3.
Databases:	MongoDB, DynamoDB, MySQL, RDS, PostgreSQL, and MS SQL.
Technologies & Frameworks:	Spring-Boot, React, NPM, NodeJS, Flask, RESTful APIs, Apache Kafka, Apache Storm, Zookeeper, Hazelcast Jenkins, Agile, Redux, Maven, JUnit, Spark, Apache Airflow and Postman.
Tools:	Git, Jira, GitHub, Visual Studio Code, IntelliJ, and PyCharm.
Core Knowledge:	Data Structures and Algorithms, Object Oriented Programming, Distributed Systems, Software Architecture, Design Patterns, System Design, Database Management System, Operating System, and Software Testing.
Work Areas:	Distributed Systems, Backend Development, Full Stack Development, and Cloud Native Development

CERTIFICATIONS AND AWARDS

- AZ-900 (**AZURE fundamentals**), Microsoft, November 2020, and **JAVA, C, and C++** training, IIT Bombay, India.
- Performance recognition awards, "Star of the month", April 2021, and "Act as a true partner-Stewardship", July 2022 by Accenture.