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* — May 2024
Guru Gobind Singh Indraprastha University, India | *Bachelor of Technology, Information Technology* — 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.**
- Created dynamic, responsive **React JS** dashboards for enhanced user experience, boosting engagement and saving 15% time.
- Designed 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 dynamic user inputs handling over 30,000 users.
- Wrote **PowerShell** script analyzing network load on MS SQL database, notifying bottlenecks, resulting in 30% less downtime.
- Created **Jenkins** script to automate **CI/CD** pipelines to build, test, and deploy processes, saving 20% time.
- Developed **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: Developed 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
- Created 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 our university by the 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)** - This 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.