Karan Chopra

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EDUCATION

University of Washington, Bothell, WA | *Master of Science, Computer Science & Software Engineering* *Sep 2022 - May 2024*
Guru Gobind Singh Indraprastha University, India | *Bachelor of Technology, Information Technology* *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: Transitioned Mutual Funds [MF] catalog from **SQL** to Elasticsearch using **Spark SQL**, UDFs, and data frames, with **Apache Airflow** for scheduling and monitoring, reducing master database load and improving API response speed by 40%.
- MF parsing: Programmed AMC [Annual Maintenance Contract] statement parsing system with Gmail integration and **AWS SQS** for automated tracking, retrieval, and management 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 good 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.