Karan Chopra

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EDUCATION

University of Washington, Bothell, WA | *Master of Science, Computer Science & Software Engineering*   Sep 2022 - Present
Coursework: Algorithm Design and Analysis, Distributed Computing, Software Architecture, and Evaluating Software Design.
Guru Gobind Singh Indraprastha University, Delhi, India | *Bachelor of Technology, Information Technology*   May 2018
Coursework: Data Structures, Object Oriented Programming, DBMS, Operating Systems, and Web Engineering.

SKILLS

Programming Languages:	Java, Python, C++, C, JavaScript, HTML, CSS, SQL, C# and .Net
Cloud:	Amazon Web Services (AWS): Elastic Beanstalk, ECS, Fargate, ELB, Route53, Cognito, SNS, SQS, Kinesis, DynamoDB, EC2, VPC, Auto Scaling Groups, NACLs, VPC, IAM, CloudFront, CDK, CodeComit, CodeBuild, CodeDeploy, SQS, RDS, SNS, S3 and SAM.
Databases:	MongoDB, DynamoDB, MySQL, RDS, PostgreSQL, and MS SQL.
Operating System:	Windows and Linux.
Technologies and Frameworks:	Spring-Boot, React, NPM, NodeJS, Flask, RESTful APIs, Kafka, Apache Storm, Zookeeper, Hazelcast Jenkins, Agile, Redux, and Maven.
Tools:	Git, Jira, GitHub, Visual Studio Code, IntelliJ, and PyCharm.

WORK EXPERIENCE

Software Engineer, Accenture, India   Apr 2020 – Aug 2022
- Integrated various third-party services with the client's web application using Java **Spring Boot** and **MS SQL** as backend stack.
- 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
- Re-designed Hospital management application with a 30% improvement in response time. [**Java, HTML, and MongoDB**]
- Designed and implemented seamless REST APIs using **Spring Boot** and **Hibernate**, enabling the creation of meeting events.
- Created dynamic, responsive **React JS** dashboards for enhanced user experience, boosting engagement and saving 15% time.
- 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**.

PROJECTS

- **Canvas Learning Tool** (Python, Redux, React, NodeJS, Kanban, 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, and JSCH)
  This project exercises a **peer-to-peer** communicating program using non-blocking accept (), multiple threads, (specifically saying, the main and the slave threads), and **JSCH** (Java secure shell). Involves two users in the same tic-tac-toe game or allows a single user to play with an automated remote user using **Java Socket** connections. **JFrame** is used for the GUI part.
- **Flight Data Analysis** (Java, JSCH, Apache Storm, HTML, and Zookeeper)
  Performed distributed data streaming and analysis of the flight data to measure the traffic in airports in the US using **Storm** framework along with **Zookeeper** coordination service for cluster management.
- **Carethroz** (Python, Flask, Bootstrap-HTML, CSS, and JavaScript)
  A Senior caregiver services marketplace application. Used **Python** as the backend language, **Flask** handles the server-side logic, dynamic content generation, and routing, while **Bootstrap** enhances the user interface by providing a consistent and appealing design.
- **Local vs. Remote Execution of Hazelcast-based inverted indexing.** (Hazelcast, Java and JSCH)
  This project creates two versions of an inverted indexing program with **Hazelcast's distributed map**. The first counts word occurrences in files and display results. The second uses **remote execution** to count word occurrences on cluster nodes, exploring Hazelcast's remote execution and measuring performance.

CERTIFICATIONS AND AWARDS

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