Radhika Joshi

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EDUCATION

Santa Clara University, Santa Clara, CA **Fall 2022 - June 2024**
Master of Science in Computer Science and Engineering (GPA: 3.6/4.0)

University of Pune, Maharashtra, India **June 2014 - May 2018**
Bachelor of Engineering in Computer Engineering (GPA: 3.7/4.0)

KEY COURSEWORK

Advanced Web Programming, BigData, ML, AI, Distributed Systems, Cloud Computing, Operating Systems, Adv. Database System

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TECHNICAL SKILLS

Languages: Java, JavaScript, Python, C++, HTML5, CSS, Bootstrap, XML, Ruby
Databases: MongoDB, MySQL, Oracle, Teradata, Firebase
Frameworks: AWS SDK, SpringMVC, SpringBoot, React.js, ExpressJS, Node.js, Spark, Kafka, MapReduce, Rails, Sinatra
Tools: GitLab, GitHub, Postman, SQLDeveloper, Splunk, Maven, Gradle, Figma

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CERTIFICATION

AWS Certified Solution Architect - Associate (AWS SAA C03) **March 2024**

PROJECT EXPERIENCE

Distributed System For Managing User Subscriptions **January-March 2024**
(SpringBoot, AWS EC2, AWS SDK, RestAPIs, Java, AWS ElasticIP, ReactJS, JavaScript, NodeJS)
- Developed a decentralised broker cluster and coordinator server for event-driven pub-sub model, incorporating replication and consistency protocols to achieve strict consistency across instances in the broker cluster deployed to EC2.
- Implemented leader election algorithm with robust concurrency control among broker cluster nodes for fault tolerance.
- Used AWS SDK APIs, to perform dynamic association of AWS Elastic IP Address with elected lead broker instance, facilitating instance discovery post leader election event. Established REST API based communication with publishers and subscribers deployed to separate AWS EC2 instances.

Big Data analysis for Streaming Web Server Log Data **April-June 2023**
(Apache Kafka, Apache Spark, Apache Spark Streaming, Hadoop, Java, Python)
- Developed a big data pipeline to run on web server logs with a Kafka Producer that creates topics and the consumer that consumes structured streaming data from the topic. Performed Spark transformations and exploratory data analysis(EDA) on a stream of 1M log records and stored the analysis results in HDFS using Parquet file format.
- EDA results provided insights into error rate per endpoint that can allow for timely identification of service failures.
- Additionally, the EDA identified endpoints that frequently transmit large volumes of data to aid in distributing requests across cluster resources for fair load distribution.

E-commerce Application **September- November 2023**
(Ruby on Rails, SQLite3, BCrypt, HTML5, CSS, Bootstrap)
- Developed an e-commerce application with admin and shopper profiles with features such as registration, user authentication and login with Bcrypt as well as role based authorization and admin access to modify product details.
- Implemented product search capability to filter and display products by name, description or price.
- Developed the cart functionality to add and delete shopper's cart items and display total cart price.

Image Gallery **May 2023**
(ReactJS, JavaScript, HTML5, CSS, Bootstrap, Google Cloud Firestore, Google Firebase)
- Implemented key features such as creating a cloud bucket to store user-uploaded images, perform user profile management and handle user authentication, and provide search and filtering capabilities. Implemented client-side routing using React-Router V6, used Cloud Firestore database as data store and deployed the application using Firebase Hosting.

WORK EXPERIENCE

Database and Information Systems Lab, Santa Clara University, CA **July 2023 - January 2024**
Research Assistant
- Compared popular Big Data Management Systems for query scheduling and resource management techniques to identify current challenges and enhancement opportunities. Presented a [vision paper (BigD754)](#) at the IEEE Big Data Conference 2023, Italy.

TIAA-GBS, India **July 2018 - April 2022**
Software Engineer
- Contributed to a control plane web service in JAVA to funnel customer communications from all TIAA financial products into communication tools, resulting in standardised communication APIs and thus gaining 60% improvement in operational efficiency through seamless integration and unified monitoring and alerting.
- Worked on a RESTful service to trigger ETL pipelines for pre-processing and storing communications preference data.
- Achieved 40% reduction in communication volume through a real time communication preference update feature.
- Worked on an anomaly detection system to track changes in user subscription preferences and send alerts when it led to email volume change beyond a certain threshold. This helped provide business with valuable insights into customer preference patterns and helped in early detection of anomalies in the communication pipelines.