

Radhika Joshi

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EDUCATION

Santa Clara University, Santa Clara, CA
Master of Science in Computer Science and Engineering (GPA: 3.6/4.0)

Fall 2022 - June 2024

University of Pune, Maharashtra, India
Bachelor of Engineering in Computer Engineering (GPA: 3.7/4.0)

June 2014 - May 2018

KEY COURSEWORK

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

TECHNICAL SKILLS

Languages: Java, JavaScript, Python, C++, HTML5, CSS, Bootstrap, XML, Ruby

Databases: MongoDB, MySQL, Oracle, Teradata, Firebase

Frameworks: AWS, Azure, GCP, SpringMVC, SpringBoot, React.js, ExpressJS, Node.js, Spark, Kafka, MapReduce, Rails, Sinatra

Tools: GitLab, GitHub, Postman, SQLDeveloper, Splunk, Maven, Gradle

PROJECT EXPERIENCE

Big Data analysis for Streaming Web Server Log Data
(Kafka, Spark, Spark Streaming, Hadoop, Java, Python)

April 2023

- 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, services that frequently transmit large data volumes were identified to assist with distributing requests across cluster resources and improve application performance.

Image Gallery

May 2023

(ReactJS, JavaScript, HTML5, CSS, Bootstrap, Google Cloud Firestore, Google Firebase)

- Implemented key features such as creating a bucket to store user-uploaded images, user profile management, search & filtering capabilities and handled user authentication. Implemented client-side routing using React-Router V6, used Cloud Firestore database as data store and deployed the application using Firebase Hosting.

E-commerce Application

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.

Sign Language Detection

November 2023

(Machine Learning, Long Short Term Recurrent Neural Network, OpenCV, MediaPipe)

- Trained a LSTM-RNN model by integrating it with OpenCV and MediaPipe to detect and track landmarks across face, hand and body. Performed feature set learning from video frames of discrete hand gestures providing vital sign language gestures..
- Classified the gestures using a softmax layer with the final model achieving 70% accuracy in real time.

Database System Project

December 2022

- Built a database engine using C++ with a CLI based interface and executes queries on a local disk.
- Database layers & modules developed include a file system handler, page handler, index creator and a query engine.

WORK EXPERIENCE

DBIS 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 communications volume through a real time communication preference update feature.
- Worked on a data monitoring and alerting 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 ETL pipeline.

PUBLICATIONS

(Python, Matplotlib, Twitter APIs, Deep Learning, Sentiment Analysis)

June 2018

Filed a patent on Sarcasm Detection on Hindi Devanagari Script using LSTM-RNN artificial neural networks, pending approval.