Sonali Desarda

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EDUCATION

Seattle University   Jan 2022 – Mar 2023
Master of Science in Computer Science   GPA – 3.72
Courses – Software Architecture, Physical Database Design, Distributed Systems, Machine Learning, Artificial Intelligence

Centre for Development of Advanced Computing, Pune, India   Feb 2018 – Jul 2018
PG Diploma in Big Data Analytics   Score – 75.75 %

Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, India   Jul 2014 – Jun 2017
Bachelor of Engineering in Computer Science & Engineering   Score – 67.96 %

SKILLS

Programming Languages:	Java, Python, C++, HTML, CSS, JavaScript, Scala
Technologies/Framework:	Spring Boot, Flask, Kafka, Jenkins, Docker, Kubernetes, Azure, AWS, Junit, Jmeter, Mockito
Version Control Systems:	Git, Bitbucket
Databases:	Sql Server, MySql, MongoDB, Redis
Certification:	RedHat Certified System Administrator (RHCSA)

WORK EXPERIENCE

IRI, India   Aug 2018 – Apr 2021
Associate Software Engineer
- Developed a promotional product sales forecasting application from the ground up, leading to ~25% improvement in revenue
- Designed a highly scalable distributed system that facilitated forecasts for 1500 products across 10,000 stores per customer
- Created RESTful microservices for planning, forecasting and monitoring promotions using Java Spring Boot framework
- Automated the report generation process by creating an API to export dashboards into Excel, reducing days of manual work
- Implemented CI/CD pipeline with Jenkins and Kubernetes to build, test and deploy application on Azure cloud
- Optimized complex SQL queries using indexing and locking, improved execution time from 10 - 15 mins to 30 - 35 secs
- Developed a JUnit unit test suite with Mockito for function mocking, resulting in code coverage of 85%
- Designed and executed a JMeter test suite for load testing, ensuring system resilience with 100 concurrent users

Seattle University   Apr 2023 – Present
Research Assistant
- Conducting research on providing personalized recommendations using different large language models and comparing them
- Developed a proof of concept application utilizing PyTorch and all-MiniLM-L6-v2 language model
- Used Elasticsearch to store embeddings and retrieve best recommendation using cosine similarity

ACADEMIC PROJECTS

Search Engine for Amazon Products *(Python, Flask, JavaScript, HTML/CSS, ReactJS, SOLR)*   Jan 2022 – Mar 2022
- Built a web scraper using BeautifulSoup to gather attributes of interest about the product and reviews
- Created an inverted index using Solr to support boolean search, proximity search, and range search
- Developed a highly responsive frontend using a combination of JavaScript, HTML/CSS, and React
- Implemented a backend powered by Flask, and SOLR to deliver relevant search results with pagination and faceting support

Implementation of Relational Database Management System *(C++, BerkeleyDB)*   Apr 2022 – Jun 2022
- Built a record-based file manager on top of the paged file manager which supports CRUD operations
- Implemented B+ tree to maintain indexes and query engine for relational operators such as select, project, join, and aggregate

Question Tagging System using Spark NLP *(NLTK, PySpark, SparkML, AWS)*   Apr 2022 - Jun 2022
- Applied NLP features like tokenization, stopword removal, stemming, and creating word corpus for preprocessing
- Used multilabel classification for predicting the categories of questions and achieved 85% accuracy
- Utilized AWS EMR to deploy Spark application, leveraging HDFS and AWS S3 for distributed and secure storage

Postal Address Search Application *(Java, Spring Boot, JavaScript, HTML/CSS, MongoDB)*   Jan 2022 - Mar 2022
- Constructed a dynamic UI that adapted input fields in real-time based on selected countries, employing jQuery, and AJAX
- Leveraged the Java Spring Boot and MongoDB for enabling users to retrieve the country-specific addresses