Monalisa Dokania

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Professional Summary

With **1 year** experience as Software Engineer, and proficiency in Java, Python development, Web development, Cloud, Machine Learning, and Distributed Database Systems, I am seeking **Early Career** full-time Software Engineer roles.

Education

- **Masters in Computer Science; GPA: 4.00/4.00** — Aug 2022 - May 2024
  Arizona State University — *Tempe, AZ*
- **Bachelor of Information Technology; GPA: 7.59/10.0** — July 2011 - May 2015
  Motilal Nehru National Institute of Technology — *Allahabad, India*

Skills Summary

- **Languages:** Java, Python, MySQL, PostgreSQL, MongoDb, javascript, HTML, CSS
- **Tools & Technologies:** Spring Boot, React, Tailwind, NoSQL, ElasticSearch, Kibana, REST API, AWS, Terraform, Docker, Kubernetes, shell scripting, Git, Apache Maven, JUnit, TestNG, Debugging, OS-Windows/MacOS/Linux
- **Relevant Coursework:** Algorithms, Data Structures, Cloud Computing, Machine Learning, Mobile Computing, Distributed Database Systems, Data Mining, Data Visualization, Software Testing, Operating System

Experience

- **Graduate Teaching Assistant (Part-time)** — May 2023 - Present
  Ira. A. Fulton School of Engineering (ASU) — *Tempe, AZ*
  - Managed 2 classes of **305** students for CSE565: Software Testing, held office hours, cleared doubts and provided guidance.
  - Led discussion forums, created/graded assignments, and worked on content improvement.
- **Consultant (Non-technical role)** — April 2017 - March 2020
  M/S Rajiv Industries — *Patna, India*
- **Associate Software Engineer** — June 2015 - June 2016
  Indus Valley Partners Pvt. Ltd. — *Noida, India*
  - Developed Reconciliation tool for data validation, wrote shell scripts, and performed statistical analysis that led to successful software upgrade and data migration from Geneva **8.0** to **15.2**
  - Provided support for custom apps to extract and load data in the portfolio accounting system (Geneva).

Projects

- **Distributed Database System Design and Optimization** — Github Link
  - Designed database system using postgres for an E-commerce domain using postgres, focusing on data consistency, availability, and performance across distributed nodes. Implemented fragmentation, master-slave replication, query optimization.
  - Implemented transaction mechanisms with AWS Aurora, and also delivered a NoSQL implementation with MongoDb.
- **Full Stack Web Application for Employee management** — (Currently working)
  - Developed a full-stack application using Spring Boot and React with Tailwind CSS in order to manage the employee database.
  - Utilised postgreSQL with Amazon RDS for storage and efficient retrieval with APIs. and deployed the application on EC2.
- **Demographic Data Visualization & Salary Determinant Study** — Github Link
  - Extracted insights from demographic datawith **30,000** rows, with graph visualization tools like matplotlib, seaborn, plotly.
  - Visualized **5** user stories with mosaic, PCPs, box plots, KDE, heatmaps, to analyse attribute impacts on individual salary.
  - Created marketing profiles for potential customers to bolster the client's marketing campaign by targeted marketing.
- **Data Analysis & Machine Learning for Meal Prediction** — Github Link
  - Cleaned and Synchronized data from Medtronic 670G sensors, extracting **18** features through comprehensive Python analysis.
  - Developed a Decision Tree classifier model, for predicting meal and no-meal instance in time series data, with **84.8%** accuracy and **71.6%** F1-score. Evaluated cluster validity for K-means and DBSCAN using SSE, entropy, and purity metrics.
- **Binding Affinity Prediction with Machine Learning** — Github Link
  - Led the benchmarking efforts of catELMo, a context-aware amino acid embedding model, against various models, and processed a dataset of **4 million** TCR and epitope records, transforming them into numerical vectors.
  - Engineered various machine learning models, evaluating their performance, and implemented the Random Forest classifier, leading to a notable improved accuracy of **73%** in TCR-epitope binding prediction.
- **Android application for Handwritten Digit Recognition** — Github Link
  - Created an Android application capturing handwritten digits, offloading processing to Flask servers, consuming REST APIs.
  - Implemented deep learning Convolutional Neural Network (CNN) with TensorFlow on the flask servers to classify images and accurately organized them in folders based on classifications.