KARTIK KATARIA

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EDUCATION

Master of Science – *Computer Science – The University of Texas at Arlington***,** *USA - (GPA: 3.75)* **May 2023**

***Coursework*:** *Cloud Computing, Machine Learning, Algorithms, Web Data Management, Data Mining, Artificial Intelligence*

Bachelor of Engineering – *Computer Science and Engineering – Guru Gobind Singh Indraprastha University, (GPA: 3.5)* **May 2019**

SKILLS

- **Programming Languages**: Python, JavaScript, R, SQL, HTML, CSS, Java
- **Cloud Services**: Google Cloud Platform (GCP), Amazon Web Services (AWS), Microsoft Azure
- **Databases**: MS SQL Server, MySQL, Oracle DB, Postgres, MongoDB
- **Data Visualization Tools**: Excel, Tableau, PowerBI
- **Web Technologies and Frameworks**: React.js, Node.js, Express.js, Flask, Django, Rest Assured, Karate
- **Additional Technologies**: Git, Docker, Kubernetes, Restful API, Big Query, Pandas, Numpy, PyTorch, CI/CD, TensorFlow, Jenkins, Kafka, JMeter, Junit

WORK EXPERIENCE

Software Engineer, Cognizant - USA **Aug 2023 – Current**

- **Project: Capital One** **May 2024 - Current**
  - Developed and enhanced critical banking applications using Java **Spring Boot**.
  - Conducted performance testing using **JMeter**, achieving a **50%** improvement in application response times, with the average response time reduced to around **72ms**.
  - Performed functional testing using **Rest Assured and BDD** frameworks, increasing test case coverage by **40%** and identifying **20%** more defects before production.
  - Utilized **AWS** services including **S3** and **IAM** role creation to enhance application performance and security.
  - Collaborated with cross-functional teams to implement best practices, resulting in a 25% reduction in bugs and a 20% improvement in application performance.
- **Project: Verizon** **Aug 2023 – April 2024**
  - Led the development and optimization of billing and payment solutions employing **Java** for backend operations and **React.js** for frontend enhancements.
  - Advanced database efficiency and scalability by implementing **Cassandra**, achieving a **25% enhancement** in handling high-volume transaction data.
  - Conducted thorough **code reviews** and **sanity checks** to maintain high standards of code quality and reliability, fostering a culture of excellence within the development team.

GTA, Data Analysis and Modeling Techniques, University of Texas at Arlington - USA **Aug 2022 – May 2023**

- Developed and delivered engaging lectures, workshops, and tutorials, utilizing Python and R programming languages to facilitate hands-on learning experiences in data manipulation, visualization, and predictive modeling.

Associate Software Engineer, Perpule - India **Aug 2019 – Apr 2021**

- Collaborated with a team of developers to design, develop, and maintain the backend of the Perpule self-checkout system using **Python**, resulting in a **50% reduction** in checkout time and enhancing overall customer satisfaction.
- Implemented efficient algorithms and data structures to optimize the performance of critical system components, leading to a **30% increase** in system throughput and improved scalability.
- Assisted in the design and implementation of a **RESTful API** for the Perpule mobile application, enhancing the user experience and driving a significant **40% increase** in user engagement.

Database Intern, CRIS - India **Jun 2018–Aug 2018**

- Restructured databases and implemented performance enhancements, resulting in a significant 15% increase in the efficiency of the Indian Railways database system.
- Successfully debugged database issues daily, overseeing a portfolio of over 100 databases for the freight operations division. This involved conducting thorough analysis, identifying root causes, and implementing effective solutions to ensure uninterrupted data flow and system stability.

PROJECTS

React To-Do Web Application with Redux

- Developed a React web application utilizing Redux for state management and data flow. Implemented **Redux** fundamentals including store, reducers, actions, and dispatching actions.
- Created reusable React components for an optimized frontend architecture. Leveraged React Hooks like useState, useEffect, and useContext to manage component state and lifecycle.
- Built an easy-to-use UI allowing users to seamlessly interact with the app. Applied React principles to break complex UI into simpler reusable components.

Image Generator using OpenAI and Dall-E | Node.js, Express.js

- Developed an image generation web application using OpenAI's DALL-E API and Flask that allows users to generate images by describing them in natural language text.
- Implemented the frontend using HTML, CSS, JavaScript to display generated images and allow text prompt input. Backend written in Python using the OpenAI API and Flask framework to call the API and serve the generated images.

Tableau Project - Netflix Dashboard

- Developed an interactive Netflix dashboard using Tableau, integrating multiple data sources to analyze content metrics and user engagement for comprehensive insights.
- Created dynamic visualizations showcasing key metrics such as content trends, ratings distribution, viewer demographics, and popular genres, enabling data-driven decision-making.
- Implemented interactive filters and drill-down functionality, empowering users to explore the data at various levels of granularity and uncover valuable patterns and correlations.

HR Survey Analysis Power BI | Microsoft PowerBI, DAX formulas

- Analyzed survey data from 630 individuals using PowerBI, revealing higher average ratings for better salary and related factors, resulting in a **20% increase**.
- PowerBI reports highlighted Python as the most popular programming language among employed respondents, and 70% preferred living and working in the United States.

Human Resource Management System

- **Problem:** Manual management of employee data leading to inefficiency and potential errors.
- **Actions:** Implemented MongoDB Atlas for automated and streamlined employee data management, while utilizing Cloud **Firebase** for backend execution and deploying the web interface on Google Cloud's **App Engine**.
- **Results:** Increased **efficiency** by **20%** through automation, minimizing errors and improving data accessibility and accuracy.

Alien Invasion Game

- Engineered a Python-based game with over 3 objects and dynamic functionalities, reducing server response time by 70%.
- Output of the game is a current score feature with difficulty level increasing with each level.

Detected Fraudulent Job Postings using Machine Learning and Deep Learning Techniques

- Identified fraudulent job postings from a dataset of over 18k jobs, with 4% being fake.
- Utilized XG-Boost and Bi-directional LSTM algorithms to develop a machine learning model.

CERTIFICATIONS

- Data Engineering – IBM
- Gen AI Fundamentals - Udemy
- React and Redux Course - Udemy
- Data Analytics Certification – Google
- Data Visualization with R – EdX