Rigved Manoj

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EDUCATION

University of Massachusetts, Amherst Amherst, USA
Master of Science in Computer Science **Expected Graduation: May 2025**
Courses: Software Development, Network Security, Machine Learning, Formal Language Theory ***GPA 4.0/4.0***

National Institute of Technology, Tiruchirappalli Trichy, India
Bachelor of Technology in Electronics with Minor in Computer Science **Jul 2016 - Jun 2020**
Courses: Big Data, Operating Systems, Data Structures and Algorithms, Database Management

SKILLS

Languages and Tools: Python, SQL, JavaScript, C++, Git, Django, React, Node JS, AWS, Kubernetes

Expertise: Full-Stack, Software Development, Software Architecture, Algorithms, Database Management, Agile, Jira

EXPERIENCE

Visa Inc
Machine Learning Intern *May 2019 - Jul 2019*

- Improved recall and enhanced precision by 25% and 10%, respectively, by applying a structured hyperparameter optimization technique that integrated grid search and random search methods.
- Enhanced a Python-powered full-stack tool to predict transaction patterns utilizing Meta's Prophet algorithm for anomaly identification, leading to an 18% enhancement in precision compared to the prior system.
- Utilized thorough examination to choose the Prophet model, emphasizing its exceptional efficacy in integrating key variables like holidays, leading to a substantial improvement in project outcomes.

Visa Inc
Senior Data Engineer *Mar 2023 - Jul 2023*

- Reduced code redundancy by 43% and lowered resource utilization by 10% by building a high-performance ETL tool using Python and Hive, streamlining data extraction and transformation processes across applications.
- Managed 15 million daily transactions by creating a resilient data intake system with HDFS, Spark, and Python for distributed processing, and implemented CI/CD pipelines for automated testing and deployment to guarantee seamless integration.
- Identified and rectified a crucial data inconsistency matter by conducting root cause analysis, exploring data lineage, and conducting thorough code review, resulting in safeguarding $240k in revenue.

Visa Inc
Data Engineer *Oct 2020 - Feb 2023*

- Remediated 3 years of data inconsistencies encompassing 10 billion records through scrutinizing data lineage, executing incremental data backfilling, and persistently overseeing systems to guarantee seamless service for end users.
- Created an internal tool using React and Bootstrap to visualize job failures over time through interactive dashboards, empowering teams to monitor and analyze failure patterns.
- Reduced manual testing workload by 32% through implementing a scalable, configuration-based tool in Python to automate data pipeline testing, enabling integrated parallel execution.
- Redesigned applications to adhere to Indias new central bank security guidelines, ensuring complete alignment with data collection and benchmarking processes.

PROJECTS

Campus Diner (ReactNative, Material UI, HTML/CSS, Django, MySQL)
- Designed a canteen registration Android app utilizing React Native and detailed wireframes, prioritizing component reusability and Material UI design to enhance the student experience.

JobGPT (Python, RAG, GPT3.5, PostgreSQL)
- Implemented a job search engine utilizing Retrieval Augmented Generation (RAG) algorithms and Large Language Models to facilitate user input of job preferences and deliver a tailored list of job opportunities with descriptions and application links.

Reverse Chess (Python, GUI, Game Logic, Min Max Alogrithm)
- Led a team of 5 individuals in creating a Python and Tkinter chess graphical user interface with inverted regulations, integrating the Min Max algorithm, leading to an AI adversary attaining an 80% success rate.

InstaHire (React, Javascript, HTML/CSS, Django, SQLLite, API, Selenium)

- Collaboratively designed a React and Django-based full-stack web app, utilizing RESTful APIs for a streamlined Job-Board platform, enhancing the recruitment process within a Scrum-based Agile development environment.

PUBLICATIONS

AMD Detection with CNN

- Enhanced a multiscale CNN with 6 convolutional layers to extract and integrate local and global features, utilizing random forest classification for achieving accuracy rates surpassing **96%** on various datasets.

RPE Recognition in Retinal OCT

- Enhanced core deep learning algorithms by pioneering a unique method incorporating contrast improvement and pixel clustering to isolate RPE layer and baseline from retinal OCT images for AMD detection, resulting in a 96.66% accuracy on a dataset of **2130** images.