Rigved Manoj

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EDUCATION

University of Massachusetts, Amherst   *Sept, 2023 - Present*
Master of Science in Computer Science
Coursework: Theory and Practice of Software Engineering, Computer and Network Security, Reinforcement Learning

National Institute of Technology, Tiruchirappalli   *July, 2016 - June, 2020*
Bachelor of Technology in Electronics and Communication
Coursework: Data Structures and Algorithms, Operating Systems, Computer Organization, Database Management

EXPERIENCE

Visa Inc.   *Oct, 2020 - July, 2023*
Senior Data Engineer
- Spearheaded the development and validation of a config-driven, scalable utility that achieved a 10% reduction in manual testing.
- Played a pivotal role in the end-to-end implementation of a data pipeline, handling a daily load of more than 10 million transactions.
- Conducted root cause analysis and resolved a critical data inconsistency issue between data centers that ensured customer retention.
- **Keywords:** Apache Hadoop, Apache Spark, Apache Hive, Python, Scala, ETL (Extract,Transform and Load)

Data Engineer
- Designed, built, and maintained diverse high-capacity applications capable of managing large-scale multi-dimensional data sets.
- Created an ETL tool resulting in a 50% reduction in code redundancy and improved operational efficiency across applications.
- Contributed to the India Localization initiative, ensuring compliance with central bank guidelines and mitigating regulatory risks.
- **Keywords:** Data Processing, SQL, IBM DB2, Shell Script, Agile, Data Warehousing, Data Engineering

Visa Inc.   *May, 2019 - July, 2019*
Intern
- Conducted in-depth analysis of time series models and elected the most effective one for accurately forecasting commercial data.
- Designed and Implemented an end-to-end forecasting tool utilizing Prophet framework to detect anomalies in transactional data.
- Enhanced accuracy by 18% over existing models through a blend of grid search and random search for hyper-parameter optimization.
- Built a user-friendly interface for the representation of forecasted data, allowing users to effortlessly interact with the statistics.
- **Keywords:** Artificial Intelligence, Anomaly Detection, Data Modeling, Machine Learning, Data Analysis

PROJECTS

Agent/Environment Generator | **Repository**   *Sep, 2023 - Oct, 2023*
- Developed an environment randomizer to rigorously test and evaluate reinforcement learning algorithms.
- Iteratively estimated the value function and progressively improved policies to identify the optimal policy.
- Utilized networkX to create visualizations of the generated environments and optimal return paths.
- Implemented the MVC architectural pattern to enhance the codebase's maintainability.

CNN based AMD Detection | **Publication**   *Mar, 2020 - May, 2020*
- Designed a multiscale CNN with six convolutional layers to extract and merge local and global features effectively.
- Achieved high accuracy using random forest classification, with accuracy scores over 96% on various data sets.
- Utilized ten-fold cross-validation to rigorously validate the AMD detection algorithm's performance.

RPE Recognition in Retinal OCT | **Publication**   *Jan, 2020 - Mar, 2020*
- Developed a novel approach to extract RPE layer and baseline from retinal OCT images for AMD diagnosis.
- Employed contrast enhancement for speckle elimination and pixel grouping for RPE layer extraction.
- Applied randomization, polynomial fitting, and drusen removal for baseline estimation.
- Attained a 96.66% accuracy on a dataset of 2130 images, offering robust RPE detection.

Reverse Chess | **Repository**   *Jan, 2019 - Mar, 2019*
- Led a four person team in developing an engaging chess GUI with reverse chess rules.
- Integrated Min-Max algorithm,providing an AI opponent capable of strategic decision-making.
- Guided the project from inception to execution, fostering a culture of collaboration among the team.

TECHNICAL SKILLS

Languages - Python, Java, Shell Script, C/C++, MySQL, Scala, Hive, Spark, JavaScript, HTML, CSS
FrameWorks and Tools - Django, React, IntelliJ, VS Code, Git, Grafana, Control M

ACHIEVEMENTS

- Shortlisted for onsite regional **ACM ICPC** twice.
- Won INR 15000 for placing **First** in "Three's a Crowd"(Competitve Coding Contest).
- Attained a CodeChef rating peak of **2041**.
- Received Visa **Go Beyond** Recognition.