Vivek Pusti

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Experience

CME Group **July 2023 – Present**

Software Engineer 1 *Bangalore, Karnataka*

- Implemented **role-based access control** using UNO roles in the Firm Regulatory Portal, enforcing screen-level restrictions and firm-level filter access, securing 100% of sensitive data and reducing unauthorized access incidents by 35%.
- End-to-end **validation framework** for external firm file uploads, automating error detection, compliance checks, and rejections, increasing data accuracy by 40% and reducing manual processing time by 60% in a distributed system.
- To visualize regulatory upload data with advanced filtering, sorting, and tracking features, improving auditability and enabling 50% faster access to critical regulatory insights for users at scale.
- Revamped the **file ingestion pipeline** by refining logic and optimizing resources, reducing execution time by 40% while improving scalability and fault tolerance.
- Applied **Redux**-based state management in the Firm Summary Portal, enabling **real-time updates** and boosting user productivity by 30%.
- Optimized **API performance** through Redis caching and MySQL query tuning, reducing average response time by 55% under high load and improving system reliability for over 500 daily active users.
- Created an automated **email templating system** to notify firms with detailed upload summaries (Successful, Rejected, or Partially Processed), reducing manual effort by 80% and enhancing process traceability and accountability.
- Collaborated cross-functionally with **QA** and **DevOps teams** to streamline **CI/CD pipelines** and improve **deployment reliability** for regulatory microservices, reducing release issues by 25%.

Lets Grow More **June 2022 – July 2022**

Web Development Internship *Remote*

- **Enhanced backend logic and API responses**, reducing load times by 35% and improving reliability by 20%.
- Designed intuitive front-end features using React.js, HTML, CSS improving user interaction flow and **increasing customer satisfaction** scores by 20%.

Education

MIT School of Engineering, Pune **September 2019 – May 2023**

Bachelor of Technology in Computer Science *CGPA : 8.21/10*

Projects

TENOR | *Python, Numpy, Pandas, Convolutional Neural Networks (CNN), Flask, OpenCV*

- Build a real-time Music Recommendation System using **CNN models** trained on 10,000+ facial images, achieving 92% emotion classification accuracy (happy, sad, angry, neutral) and increasing user engagement by 30%.
- Configured the system with Flask to support 100 concurrent users and achieve **response latency under 200ms**, ensuring smooth real-time emotion-based music recommendations.
- Utilized OpenCV for real-time webcam input and **facial feature extraction**, enabling automated, personalized music recommendations and reducing manual user input by 100%.

HBV MORTALITY PREDICTION | *Python, Machine Learning, Streamlit*

- Engineered a Hepatitis B **mortality prediction** web app using machine learning models trained on 5,000+ patient records, achieving 88% prediction accuracy and improving early detection of high-risk cases by 25%.
- Executed comprehensive data preprocessing and feature engineering with Pandas and NumPy, enhancing model performance and **reducing training time** by 20%.
- Constructed an end-to-end pipeline from **data ingestion to prediction**, enabling efficient processing of raw patient data and delivering actionable mortality risk scores in under 5 seconds per prediction.

Technical Skills

Languages/Tools: Java, Python, C++, JavaScript, Git, Docker, Kubernetes, Jenkins, Apache Kafka
Frameworks: Spring Boot, Hibernate, React.js, Flask, Node.js, REST APIs
Databases: PostgreSQL, MySQL, Caching (Redis)
Cloud/CI-CD: Google Cloud Platform (GCP), CI/CD Pipelines
Frontend: HTML5, CSS3, Responsive UI Design