Manisha Vajhala

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PROFESSIONAL EXPERIENCE

Software Engineer Research Assistant (Data Focused) | Iowa State University   **July 2024 – Current**
- Developed web applications using JavaScript, HTML, and CSS, optimizing user interfaces with a focus on data-driven design and responsive layouts.
- Collaborated with cross-functional teams in sprint cycles to gather requirements, analyze data needs, and deliver features that meet business objectives.
- Designed and integrated RESTful APIs, improving data flow and ensuring efficient data exchange between the frontend and backend for real-time data access.
- Led workshops for high school students, teaching data analysis through hands-on web development projects, emphasizing data collection and visualization.

Data Engineer & Analyst (Full-Time) | Youngsoft India   **Nov 2022 – Oct 2023**
- Built a pipeline using Python, PySpark, and Azure Data Factory for ingestion, transformation, and storage of 500,000+ records in Synapse Analytics.
- Executed data cleansing and transformation using Python and SQL, optimizing financial indicators like employment ratio and credit utilization for analysis.
- Developed interactive dashboards in Power BI, delivering real-time insights on credit approval trends and risk assessment for business stakeholders.
- Performed exploratory data analysis using SQL and Python, uncovering key trends and patterns in credit approvals to support data-driven decision-making.
- Partnered with cross-functional teams to establish data validation strategies, ensuring accurate financial data migration and regulatory compliance.

Data Analyst (Internship) | Youngsoft India   **June 2022 – Oct 2022**
- Developed an automated ETL pipeline in Python that processed over 200,000 student records, reducing manual entry by 70% and improving speed.
- Validated and cleansed academic data using Python (Pandas, regex) and SQL, reducing reporting errors by 30% and improving GPA dashboard accuracy.
- Built Power BI and Tableau dashboards with slicers, drill-through filters, and DAX to visualize performance and deliver real-time insights to stakeholders.
- Optimized SQL queries and data structures using indexing, joins, and window functions, boosting retrieval speed and efficiency in student record systems.
- Collaborated with teams to define business requirements, translating them into data-driven solutions to improve decision-making for educational institutions.

TECHNICAL SKILLS

Python | Tableau | Power BI | Oracle | MySQL | MS SQL Server | PostgreSQL | Snowflake | Informatica | Data Modelling | Data Warehouse | Microsoft Office | Azure Data Factory | Azure Synapse Analytics | ADLS | ETL | AWS | S3 | Lambda | VS Code | Java | JavaScript | React.JS | HTML | CSS

EDUCATION

Iowa State University, Iowa
Master of Science (MS), Information Systems (CGPA 3.7/4.0)

Jawaharlal Nehru technological University, India
Bachelor of Technology (B.Tech) Computer Science (CGPA 3.5/4.0)

ACADEMIC PROJECTS

Machine Learning for Credit Data   **Aug 2024 – Oct 2024**
- Designed and implemented machine learning models, including a Neural Network and a Gradient Boosting Classifier, to accurately predict credit risk.
- Conducted advanced feature engineering, creating and encoding an Age-Group variable to enhance data preprocessing and model performance.
- Built scalable neural network architectures with ReLU and sigmoid activations, leveraging Python libraries like TensorFlow and scikit-learn for solutions.
- Evaluated model performance with accuracy scores and classification reports, ensuring robust and reliable predictive analytics.

Agile Product Development for Fit-Tracker   **Aug 2024 – Dec 2024**
- Developed a Product Requirements Document (PRD) for Fit Tracker, defining problem statements, features, and user personas to establish a clear vision.
- Created workflows and wireframes for AI Workout Recommendation Engine and Progress Tracking Dashboard using Figma, ensuring user-friendly design.
- Analyzed Progress Tracking and Analytics using SQL and Tableau, providing actionable insights that improved user engagement and satisfaction rates.
- Collaborated with cross-functional teams to prioritize sprint tasks, including Recovery Mode, Injury Prevention, and Gamified Challenges, using Kanban.
- Proposed and developed the Virtual Personal Trainer using machine learning and API integration to enhance usability and user motivation.

Cloud Computing and Secure Application Development Experience   **Jan 2024 – May 2024**
- Proficient in configuring AWS services like EC2, S3, VPC, Lambda, and Auto Scaling for secure, scalable architectures.
- Developed secure file transfer protocols using Java with RSA and AES encryption and digital signatures.
- Implemented attribute-based encryption for fine-grained access control to cloud-stored data.
- Automated cloud tasks using AWS Lambda and Python for dynamic and real-time solutions.

COMPETITIONS AND ACHIEVEMENTS

Ivy Data Visualization and Storytelling Case Competition | 2nd Place
- Achieved 2nd place in a university-wide competition focused on data analysis, visualization, and storytelling.
- Collaborated with a team to analyze a dataset of 15,000+ observations, extracting key insights and crafting a compelling narrative.
- Presented findings to a panel of judges, demonstrating strong communication, problem-solving, and teamwork skills.

STEM Educator and Mentor
- Conducted hands-on boot camps for high school students, teaching data analysis and web development using JavaScript, HTML, and CSS.
- Led interactive workshops, guiding students through data collection, visualization, and real-world applications.
- Mentored students in project-based learning, simplifying technical concepts and fostering problem-solving skills.

Business Analytics Symposium & Industry Engagement
- Participated in the 2024 Business Analytics Symposium, focusing on AI's impact on business analytics.
- Engaged with industry leaders and professionals from top insurance, financial services, marketing, and manufacturing companies.
- Attended keynote sessions on AI-driven business transformation, including PwC's workforce upskilling strategies and wildfire prevention techniques.