Vraj Rana

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https://vrcoder70.github.io/VrajRana-TechPortfolio

EXPERIENCE

AI Integration Engineer, Thunderbird School of Global Management *February 2024 - Present*

- Developed an interactive AI-driven negotiation simulation tool for business students, enabling case study uploads and personalized scenario creation.
- Integrated performance feedback mechanisms and archival functionalities, enhancing educational outcomes and facilitating detailed reviews by professors.
- Built Conversational AI with Meta Human character, enabling communication with animated characters.
- Facilitated technology information sessions for students, outlining available resources and practical usage.

Data Analyst, AIDE Lab, Arizona State University *October 2022 - October 2023*

- Implemented a classroom air quality monitoring network, streamlining data collection, and processing, resulting in a 50% reduction in time spent on data management.
- Leveraged statistical analysis to evaluate the impact of HEPA filters, demonstrating a 40% decrease in air pollutants within classrooms.
- Programmed data visualizations for poster presentation at AZPHA conference, as well as for reports, ensuring clear communication of research findings to a diverse audience.
- Authored a research paper on "Effectiveness of DIY Air Cleaners in Reducing Exposure to Respiratory Aerosols in Us Classrooms: a Longitudinal Study of K-12 Schools", currently under review by the Science & Education Journal.

Software Engineer, Tata Consultancy Services *July 2021 - July 2022*

- Modernized a legacy monolithic application by migrating to microservices architecture and building RESTful APIs using Spring Boot.
- Designed and implemented Costing and Data Persistence APIs within an Agile Scrum framework, adhering to sprint deadlines, and collaborating effectively with the team.
- Optimized system performance through advanced algorithms, data structures, asynchronous and parallel programming, achieving a 40% reduction in REST API response times.
- Troubleshooted and resolved critical business logic issues, implemented unit tests to ensure code quality and expedite deployment.

TECHNICAL SKILLS

Python, Java, JavaScript, SQL, NoSQL, PyTorch, NumPy, Matplotlib, Convolution Neural Network, Pandas, SciPy, Data Visualization, Data Analysis, Scikit-Learn, Docker, Kubernetes, AWS, Git, Node.Js, D3.Js, React.Js

EDUCATION

Master of Science, Computer Science *May 2024*
Arizona State University, Tempe, AZ *3.7 GPA*

Bachelor of Engineering, Computer Science *May 2021*
The Maharaja Sayajirao University of Baroda, Vadodara, GJ *3.8 GPA*

PROJECTS

X-Ray Pneumonia Classification

- Achieved 96 % accuracy in chest X-ray classifications by implementing and training the deep neural networks.
- Extended the project towards multi-class classification, differentiating Covid vs Non-covid and Viral vs Bacterial pneumonia from normal cases.

Multimedia Data Analysis and Feature Space Exploration

- Leveraged machine and deep learning algorithms to build an image database for accurate image retrieval.
- Developed image identification and relevance feedback systems enhancing image processing capabilities.

Data Fusion and Classification for Glycemic Analysis

- Synchronized & analyzed Insulin and CGM datasets, extracting features relevant to diabetes management.
- Trained machine learning models to effectively classify data based on meal and non-meal features.
- Employed clustering techniques to analyze meal data and assess model accuracy using SSE, entropy, and purity metrics, facilitating better meal-related predictions.