Vraj Rana

vrana7@asu.edu | 602-910-9891 | https://vrcoder70.github.io/VrajRana-TechPortfolio

EXPERIENCE

AI Integration Specialist, Thunderbird School of Global Management   *February 2024 - Present*
- Developed Animated Conversational AI, enabling seamless interaction with users through AI-generated characters.
- Generated virtual reality space with animated characters and facilitated interactive engagement.
- Facilitated technology information sessions for students, outlining available resources and practical usage.

Data Analyst, AIDE Lab, Arizona State University   *October 2022 - October 2023*
- Developed a classroom air quality monitoring network, streamlining data collection, and reducing time by 50%.
- Conducted statistical analysis and programmed data visualization on pre- and post-intervention air quality data of HEPA filter, resulting in a 30-40% decrease in air pollutants.
- Published author of the paper "Effectiveness of Do-It-Yourself Portable Air Cleaners in Reducing Exposure to Respiratory Aerosols in US Classrooms", currently under review with the Science & Education Journal.

Software Engineer, Tata Consultancy Services   *July 2021 - July 2022*
- Developed REST APIs and microservices and upgraded legacy code, resulting in better performance and data security.
- Enhanced system performance by implementing advanced algorithms, data structures, asynchronous and parallel programming, and batch processing, reducing REST API response times by 40%.
- Achieved timely release of new products by employing Scrum methodology across two sprints, complemented by the utilization of GitLab, Sonar Lint, JIRA, and Confluence to streamline development processes.

TECHNICAL SKILLS

Python, Java, JavaScript, SQL, NoSQL, PyTorch, NumPy, Matplotlib, Scikit-Learn, Pandas, SciPy, D3.js, Spring Framework, Docker, Kubernetes, AWS, Jenkins, Node.js, React, Junit, Mockito, Git

PROJECTS

Multimedia Data Analysis and Feature Space Exploration   *Fall 2023*
- Explored feature extraction, dimensionally reduction, indexing and clustering with caltech101 image dataset to build versatile databases for accurate and effective image\label retrieval and visualization.
- Implemented customizable image identification programs using various machine learning algorithms.
- Programmed SVM and Probabilistic based relevance feedback system for precise results.

Elastic Fusion Cloud   *Spring 2023*
- Deployed a cost-efficient, auto-scaling web app utilizing AWS EC2, SQS, S3, and CloudWatch based on demand.
- Enhanced deployment by integrating AWS Lambda, SQS for queuing, and DynamoDB for data storage, to develop a smart classroom assistant powered by facial recognition technology.
- Migrated app to hybrid cloud, optimizing costs and improving cloud skills with AWS and OpenStack.

Data Fusion and Classification for Glycemic Analysis   *Spring 2023*
- Synced Insulin and CGM datasets and extracted insights and distinctive features.
- Trained supervised machine learning models to classify data using meal and non-meal features.
- Analyzed meal data using clustering techniques and assessed accuracy with SSE, entropy, and purity metrics.

EmoViz: Emotion Visualization from Tweets   *Fall 2022*
- Developed an immersive emotion inference solution for tweets using deep neural networks and natural language processing to predict human emotions.
- Enhanced user engagement through dynamic stream graphs and bubble-packing graphs using D3.js for effective emotion visualization.

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*