Samay Shetty

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EDUCATION

Rochester Institute of Technology, Rochester, New York August 2024 - Present
Masters in Computer Science
- 3.33 / 4 GPA

Vidyalankar Institute of Technology, (University of Mumbai), Mumbai, India. August 2020 – May 2024
Bachelors in engineering in Electronics and Telecommunication
BE (Hons) in Data Science
- 9.45 / 10 CGPA
- Techno-Xian- World Robotic Championship 2023-24 : 2nd Runners Up- July - (Team Lead)

SKILLS

Languages: Python, SQL, HTML/CSS, Java, C, C++
Tools: MATLAB, CAD, PolsarPro, Fusion360, Google Cloud
Technologies: OpenCV, NumPy, Pandas, PyTorch, TensorFlow, Sci-kit, PowerBI, SQL, Tableau
Expertise: Machine Learning (Deep Learning, Computer Vision, Generative AI, Large Language Models, LangChain, Retrieval-Augmented Generation (RAG)), Data Science, Natural Language Processing (NLP), Internet of Things (IoT), Big Data.
Soft Skills: Leadership and Team Management, Effective Communication and Collaboration, Problem-Solving and Critical Thinking, Project Management and Time Management.

RESEARCH & PUBLICATIONS

Research and Development of a Dual Port solar charger and published a research paper titled " *Solar Charger: A Green Way of Synthesizing & Using Energy*" in the International Journal of Scientific & Engineering Research (IJSER) Volume 12, Issue 11, November 2021 Edition.

Review paper on One hot encoding for diabetes prediction published in TANZ Journal titled "*DIABETES PREDICTION USING MACHINE LEARNING: ENHANCING ACCURACY USING HOT ENCODING TECHNIQUE* " Volume 18, Issue 12, December 2023

Research paper titled *"PolSAR Hub : A Large Scale Repository for For PolSAR Data"* selected for presentation in IEEE-INGARSS-2024 held in Goa, India

EXPERIENCE

Research Assistant (Vidyalankar Institute of Technology)

Developed the backend for a machine learning model predicting diabetes using Random Forest, implementing optimized one-hot encoding for improved accuracy. Designed and refined data processing pipelines, ensuring efficient model training and deployment. Contributed to research published in TANZ Journal, applying AI to enhance healthcare predictions.

PROJECTS

MatSAR
Led a team to design and develop MatSAR, a machine learning-based tool for PolSAR data classification. Identified and addressed limitations in PolsarPro by integrating advanced algorithms, including ANN, SVM, Decision Trees, Random Forest, and XGBoost on decomposed PolSAR data. Used MATLAB's computational power to create a seamless solution, and integrated the backend into a user-friendly GUI using MATLAB App Designer, delivering a comprehensive tool for PolSAR data analysis.

ContextGPT – Conversational AI Model
Created a dynamic chatbot using Retrieval-Augmented Generation (RAG) and sentence embeddings for personalized user interactions.
Achieved enhanced conversational quality by incorporating advanced contextual understanding by retreiving information from relevant documents.

GestureAI – Motion and Object Captioning via Hand Gestures
Designed a vision-based system that detects hand gestures to identify objects and generate dynamic descriptions using generative AI models.
Integrated advanced computer vision techniques with Transformer-based models to produce real-time, context-aware captions.
Enhanced user interaction by combining motion detection with natural language generation, ensuring high adaptability across diverse scenarios.

Amazon Packaging Size Prediction :
Developed an ML model predicting optimal packaging sizes by training over 200k data points using Random Forest. Utilized NLP techniques to extract and process product specifications, improving prediction accuracy significantly.

ADDITIONAL INFORMATION

- Google Cloud Certification
- Founder and Head of the 3D Printing Club at Vidyalankar Institute of Technology, Mumbai, India
- Proficient in Graphic Design, applying design tools for both technical and creative projects.