Shravan Venkatraman

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Education

Vellore Institute of Technology, Chennai   **Sep 2021 – Expected Jun 2025**
BTech Computer Science and Engineering   *CGPA: 9.20 / 10.00*

Internships

Virtusa   **Aug 2023 - Nov 2023**
Computer Vision Intern   *Onsite*

- Engineered FaceLog, a comprehensive web application for automated attendance management in VIT Chennai hostels, integrating facial recognition AI built on PyTorch.
- Built a comprehensive full-stack web application leveraging the Django Framework, seamlessly integrating AI capabilities, and presented a Proof of Concept (POC) to the management of VITc, showcasing the innovative solution's potential.

Research Work

A Novel Climatic GAN with X-ViT for Traffic Sign Classification in AVT   **Sep 2023 - Feb 2024**

- Developed a novel climatic Generative Adversarial Network (GAN) combined with X-Vision Transformer (X-ViT) for Traffic Sign Classification in Autonomous Vehicle Technology.
- The climatic GAN diversified the dataset with 2L images for each weather condition, improving model performance, while X-ViT achieved an exceptional 99.8% accuracy on the GTSRB dataset.
- Status: Submitted to Intelligent Transportation Systems Transactions Journal.

Enhanced Tomato Leaf Disease Classification using EMA and EWGO   **Jun 2023 - Sep 2024**

- Implemented an enhanced approach for Tomato Leaf Disease Classification through Adaptive Ensemble Models, integrating Exponential Moving Average Fusion and Enhanced Weighted Gradient Optimization.
- Demonstrated significant performance improvements with an accuracy of 98.7% on test data.
- Status: Secured publication in the renowned 'Frontiers in Plant Science' journal, recognized for its impact factor of 5.6 and cite score of 7.1. .

Hybrid Attention Based VGG-SVM and VGG-RF for Cotton Leaf Diseases   **May 2023 - Aug 2024**

- Designed a Hybrid Spatial Attention Based VGG-SVM and VGG-RF models for Cotton Leaf Disease Detection.
- Attained impressive average accuracies of approximately 98.29% and 99.31% with the hybrid VGG-RF and VGG-SVM models, respectively, outperforming traditional classifiers.
- Status: Presented the paper to Neural Computing and Applications (NCAA) Journal, and received review comments.

Ensemble Classification with Spatial Attention for Mango Leaf Diseases   **Dec 2023 - Jan 2024**

- Formulated a Novel Ensemble Classification System with Spatial Attention for Mango Leaf Disease diagnosis.
- Secured superior evaluation scores with an accuracy of 97.13%, surpassing various benchmark models.
- Status: Accepted into conference - International Conference on Advances in Data Engineering and Intelligent Computing Systems (ADICS -2024).

Traffic Sign Classification using Attention-Fused Deep CNN   **Dec 2023 - Mar 2024**

- Devised a Novel Traffic Sign Classification system utilizing Attention Fused Deep Convolutional Neural Network (CNN).
- Demonstrated exceptional performance, resulting an accuracy of 99.3% on the MASTIF dataset.
- Status: Submitted to conference - International Conference on Robotics and Automation Sciences (ICRAS 2024).

Academic Projects

Automatic Report Generation in Upper GI Endoscopy   Jan 2024 - Present
Python, PyTorch, Django, HTML/CSS/Js   *VIT Chennai*
- Innovated a web-based solution for automating report generation in Upper GI Endoscopy, utilizing HTML/CSS/JS for Front-End and Django for Back-End.
- Currently working on an algorithm for landmark identification through integration of AI powered by PyTorch.

Gesture Based Automation   Oct 2023 - Dec 2023
Python, TensorFlow, TFLite, Raspberry Pi 4   *VIT Chennai*
- Fostered a gesture-based automation system mandated for Raspberry Pi 4, emphasizing lightweight model design and rapid execution.
- Produced a fast response time of less than 1 second for executing specific audio playback tasks based on recognized gesture, enhancing user experience and efficiency.

Technical Skills

Languages: Python, C, C++, Java, and SQL
AI and Data Science: Generative AI, Computer Vision, Machine Learning, Deep Learning, Natural Language Processing
Clouds & Databases: Proficient in basic services offered by Microsoft Azure and Amazon Web Services (AWS)
Web Technologies: HTML5, CSS3, JavaScript, PHP, Django3
Frameworks: PyTorch, TensorFlow, Keras, TFLite, MediaPipe, Scikit-Learn, Hugging Face, OpenCV, NLTK, BeautifulSoup, IBM Watson

Certifications

Natural Language Processing Specialization   Apr 2024
DeepLearning.AI (Coursera)
Generative Adversarial Networks (GANs)   Jan 2024
DeepLearning.AI (Coursera)
Tensorflow Developer Certificate 2023: Zero to Mastery   Sep 2023
Udemy
Python for Data Science and Machine Learning Bootcamp   Sep 2023
Udemy
IBM Applied AI Specialization   Feb 2022
IBM (Coursera)

Extracurricular / Volunteering

Vibrance, Annual Cultural Fest of VITc   Feb 2023, 2024
Volunteer and Committee Member
- Facilitated smooth registration processes for Vibrance 2024, contributing to the successful execution of the event in which over 4500 people participated.
- Volunteered for organizing marathons for a social cause conducted during Vibrance'23.

Google Developer Students Club (GDSC), VITc   Sep 2023 - Present
Data Science Team
- Led the coordination efforts for DevsHouse'24, overseeing logistics, participant engagement, and event execution.

Swimming - Vibrance'23, VITc   Feb 2023
Competitor
- Earned silver medals in the 25m and 50m freestyle relay events at Vibrance'23 in which people from various universities around India participated.

Game Development Club (GDC), VITc   Feb 2023 - Present
Video Editing Lead
- Produced trailers and edits for national-level workshops and events hosted by the club.
- Played a key role in enhancing the club's online presence and engagement through visually appealing and impactful video content.

Personal Tech Blog - Python & AI Focus on Medium   Oct 2023 - Present
Writer for publication: "Python in Plain English"
- Authored and maintained over 10 articles on "Python in Plain English," a publication on Medium with over 300 readers that focuses on Python programming, Artificial Intelligence, Machine Learning, and Deep Learning.