Veeraraju Elluru

Bachelor of Technology
in Computer Science and Engineering
Indian Institute of Technology, Jodhpur

+91-9513053655
GMail
GitHub
LinkedIn

Education

Year	Degree	Institute	CGPA
2026	B.Tech Computer Science and Engineering	Indian Institute of Technology, Jodhpur	9.45
2022	High School, Senior Year	Sri Kumaran Children's Home, Bangalore	9.7

Experience

REU at Center for Digital Agriculture, UIUC *May 2024 - Aug 2024*
Undergraduate Research Intern - Computer Vision, Dr.Tiago Bresolin UIUC

- Developed two Image Segmentation pipelines leveraging unsupervised representation learning and self-supervised methodologies on general cattle datasets, to mitigate the need for extensive human annotations. These pipelines incorporated **Contrastive Learning** algorithms, **Bootstrap Your Own Latent**, and **Generative Modeling**, to generate precise masks for out-of-distribution cattle, at scale.
- Stitched a **parallel regression network** for several **downstream** tasks like body weight and feed intake prediction.
- Achieved **SoTA** on the data-specific segmentation - a 6% improvement in mean Jaccard scores, when compared to Supervised models, on the proprietary dataset. (Training was performed on a GPU - NVIDIA A6000, 38.7 TFLOPS).

FluxGen Sustainable Technologies: Anomaly Detection *Jun 2023 - Jul 2023*
Machine Learning and Data Analyst Intern Bangalore

- Converted raw data from the live dashboard to an analyzable dataset. Performed EDA.
- Used historical data for training of models like **Isolation Forest** and **OC - Support Vector Machine** to obtain anomaly labels.
- Compared this with statistical analytics, and performed **Anomaly Detection** using **KMeans**.
- Created industry-oriented decks with in-depth inferences for water level optimization, to present to clients like **Tata-Steel**.

Key Projects

- **Project Focal: An Automated Image Application for ATREE** *Apr 2024 - Oct 2024*
  ATREE
  - ATREE is a prestigious NGO with research scientists and botanists who have captured the taxonomy of the diverse Indian Flora and is actively funded by **Nandan Nilekani** while being headed by **Prof. Kamaljit Bawa** (UMass)
  - This project focused on building an algorithm to tag billions of proprietary images.
  - The feature developed was integrated into the Plants of India website, which is still in its initial versions. It was the key step towards image retrieval via search.

Technical Skills

- **Languages**: Python, C, C++ | HTML, CSS, JS | MySQL
- **Frameworks and Tools**: PyTorch (well versed), TensorFlow | Standard Machine Learning Libraries Suite | Git | Django | Figma | Hugging Face
- **Computer Vision**: Object Detection, Segmentation, Localisation, Class Activation, and Saliency Maps | Camera Systems, GANs, SMPL, NeRFs, Gaussian Splatting | Familiar with popular SoTA models | Hands-on experience in using Self-supervised algorithms like SimCLR and BYOL

Key courses taken

- **Pattern Recognition and Machine Learning**: Machine Learning, Neural Networks, CNNs. Grade: A
- **Graph and Complexity Theory**: Intro to - Graph theory and its applications, Topology, Turing Machines, DFAs. Grade: A-
- **Probability, Statistics, and Stochastic Processes**: Grade: A
- **Linear Algebra**: Grade: A

Certifications

- **Advanced Computer Vision with Tensorflow:** Stanford, Courseera
- **Machine Learning Specialisation:** Stanford, Courseera
- **Deep Learning A-Z 2023:** Udemy

Positions of Responsibility

- **Assisstant Head**, Technical Events, Prometeo '24, IIT Jodhpur. Organizer - ML vertical. *Jan 2024*
- **Volunteer**, at Asia's Premier & Leading Product Engineering Practices Conference - Agile India 2023, Bangalore *2023*

Miscellaneous

- **Attendee**, 3DVSS - Explored 3DV with reputed academia and industry professionals, including Dr. Shunsuke Saito *2023*
- **Gold Medal of Excellence**, for Performance in SOF **IMO**, securing 4th at State Level *2021*