Srinath Ravi

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Experience

UnscriptAI, *AI Research Scientist* *Oct 2024 - Present*

- Working on Talking Head Synthesis using 3D computer vision techniques.

DataLabs-Capital One, *Consultant* *May 2024 - Oct 2024*

- Building an end-to-end immersive experience pipe line for Capital One's vehicle reselling vertical in collaboration with IISc.
- Suggested ways to detect inconsistencies in **COLMAP** pose estimates using extrinsic information of the camera poses.
- Built **3DGS** and **NeRFs** on a wide range of videos which were captured in the wild under different lighting conditions and with different mobile phone cameras.

Vision and AI Lab – Indian Institute of Science, *Research Assistant* (**Prof. Venkatesh Babu**) *Aug 2022 - Present*

- Designed and developed an Implicit NeRF model called **Strata-NeRF** that uses VQ-VAE for handling Stratified Scenes, beating state of the art methods like MipNeRF-360, TensoRF and InstantNGP. This work was done in collaboration with **Brown University**.
- Worked on a variant of Gaussian splatting network that can Segment objects in 3D and allowed downstream tasks like object manipulation and editing.

Springworks, *Machine Learning Engineer Intern* *Aug 2021 - July 2022*

- Leveraged **PDFMiner** along with **Google Vision API** to parse and extract information from documents such as Pan Cards, Driving License, AADHAR card, ID cards etc. This reduced costs by **50%**.
- Developed and Maintained Algorithmic trading bots that traded wide range of crypto currencies for 24 x 7 in **Binance exchange** using python. Used **Appsmith** to display Analytics of the trading bot.
- Designed error codes and integrated error handling mechanism with Slack, thereby reducing 24 hours/month debugging time.

ResoluteAI.in, *Machine Learning Engineer Intern* *Mar 2021 - June 2021*

- Built an Object Detection model (**Tiny Yolo V4**) that performed Towel Counting and Fabric Defect Detection. The project is currently being used in one of India's fastest growing textile companies which supplies around the globe.
- Used **EasyOCR** to count and identify different labels on packages moving on a conveyor belt.
- Created a dashboard with **PyQT** and **OpenCV** to perform Road Traffic analytics by calculating In-flow, Out-flow and Peak hour.

Education

9.29/10 BE in Computer Science, *Dayananda Sagar College of Engineering* | Bengaluru, India *2018-22*

Achievements: Awarded Intern of the Month at Springworks. | Reached Final Round @DSCE Ideathon 2019| Top 25 @Hack the Mountains 2.0 out of 400+ teams
Courses: Data Structures with Applications | Computer Organization | Database Management | Computer Architecture | Operating System | Software Engineering | Computer Networks | Machine Learning
Reviewer: ACM Multimedia 2023 | ACML 2023 | AI-ML Systems 2023 | WACV 24, 25 | CVPR 2024 | ECCV 2024 | ICLR 2025

Skills

Language	Python, C/C++, Java, Dart
Tools/Library	Pytorch, Keras, Jax, Tensorflow, Docker, OpenCV, Blender, Flutter, Falcon
Certifications	Deep Learning Specialization, Courcera – (2020) | Introduction to Abstract and Linear Algebra, NPTEL – (2018)

Publications

Strata-NeRF: Neural Radiance Fields for Stratified Scenes [Project Page]
Accepted in International Conference on Computer Vision (ICCV) 2023

CoRF : Colorizing Radiance Fields using Knowledge Distillation [Paper]
Accepted in workshop on AI for 3D Content Creation (ICCV) 2023

Acc3DSeg : Accelerated 3D Segmentation via Contrastive Learning
Under Review in a top tier vision conference

OM-NeRF : Object Manipulation for 3D scenes using Scene Priors
Under Review in a top tier vision conference

Projects

Finegrained Inpainting with Stable-Artist [Code]

- Implemented an in-painting pipeline that makes use of **Stable Artist** (a diffusion model) in order to in-paint images with different composition and styles.
- Provided users with the option to input multiple text prompts of varying strengths along with the masked image to achieve the desired fine-grained in-painted results.

Loan Process Automation [Code]

- Utilized **Automation Anywhere** to design a system that automatically reads and extracts key information from various applicant forms, subsequently storing it in a designated database.
- Built a predictive model utilizing **Decision Trees** to predict if the applicant would be a good candidate for a loan.

Weebify (MLH Silly Hacks 2020) [Code]

- Developed a user-friendly chat app built with **Flutter**, offering standard chat functionality and a unique meme generator feature, seamlessly integrated with **Cloud Firestore** for backend support.
- Integrated other features in the app, including stickers, emotes, and a custom 'Mischievous Translator' built using the **NLTK** library to provide silly translations for messages in multiple languages.