

# Srinath Ravi

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## Education

2025-26 MS in Computer Vision, **Carnegie Mellon University** | Pittsburgh, USA

**Relevant Courses:** Advanced Computer Vision, Visual Learning and Recognition, Learning for 3D

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

9.29/10

**Relevant Courses:** Machine Learning, Data Structures with Applications, Software Engineering, Computer Networks, Database Management

## Experience

### UnscriptAI, AI Research Scientist

Oct 2024 - Jun 2025

- Engineered advanced talking head models using **3D vision** representations, enabling the creation of highly realistic avatars videos for large-scale advertising campaigns with top brands in India. The proposed method minimize reliance on lengthy training video captures during photo shoots, significantly reducing production costs.
- Led a team to design automated pipelines for creating custom avatars and short-form videos, using advanced image and video synthesis models to deliver high-quality content at scale.

### DataLabs-Capital One, Consultant

May 2024 - Oct 2024

- Developed an end-to-end pipeline for creating immersive 3D models for Capital One's vehicle reselling vertical, requiring only a 2-minute video input. This work was done in collaboration with IISc.
- Proposed methods to detect inconsistencies in **COLMAP** pose estimates by leveraging extrinsic camera pose information, enabling early issue identification, improved computational efficiency, and reduced resource consumption.
- Formulated and implemented variations of **3DGS** and **NeRFs** for a diverse set of videos captured in real-world conditions, including varying lighting and mobile phone cameras.

### Vision and AI Lab – Indian Institute of Science, Research Assistant (Prof. Venkatesh Babu)

Aug 2022 - Oct 2024

- Designed and developed an Implicit NeRF model called **Strata-NeRF** that uses VQ-VAE for handling Stratified Scenes
- Played a key role in creating **ChromaDistill**, a Radiance Field Network capable of achieving 3D-consistent colorization.
- Enhanced the performance of 3D Gaussian Splatting (3DGS) through **Turbo-GS**, introducing faster training, improved densification via error-guided methods, and convergence-aware budget control for high-quality rendering.

### Springworks, Machine Learning Engineer

Aug 2021 - July 2022

- Used **PDFMiner** and **Google Vision API** to extract data from background verification documents, reducing costs by **30%**.
- Built and managed algorithmic trading bots for 24/7 cryptocurrency trading on the **Binance exchange** using Python, while leveraging **Appsmith** to visualize trading bot analytics.
- Implemented a comprehensive error-handling mechanism with Slack integration, significantly reducing debugging time by 24 hours per month through the use of custom error codes.

## Projects

### Finegrained Inpainting with Stable-Artist [Code]

- Devised 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.

### Object Manipulation in Zip-NeRF (OM-NeRF)

- Developed **OM-NeRF**, a four-step method for comprehensive 3D scene decomposition and manipulation.
- Leveraged a pre-trained segmentation model to distill semantic information, enabling the prediction of semantic masks.
- Decomposed objects and backgrounds within 3D scenes using semantic information, and performed foreground object manipulations (translation, rotation, and duplication).

## Publications

### Turbo-GS: Accelerating 3D Gaussian Fitting for High-Quality Radiance Fields

Under Review

Srinath R\*, Tao Lu\*, Ankit Dhiman\*, Emre Arslan, Angela Xing, Yuanbo Xiangli, R Venkatesh Babu, Srinath Sridhar

### Acc3DSeg: Accelerated 3D Segmentation via Contrastive Learning

Under Review

Srinath R\*, Ankit Dhiman\*, Jaswanth Reddy, R Venkatesh Babu

### ChromaDistill: Colorizing Monochrome Radiance Fields with Knowledge Distillation

WACV 2025, AI3DCC ICCV 2023

Ankit Dhiman, Srinath R, Srinjay Sarkar, Lokesh R Boregowda, R Venkatesh Babu

### Strata-NeRF: Neural Radiance Fields for Stratified Scenes

ICCV 2023

Ankit Dhiman, Srinath R, Harsh Rangwani, Rishubh Parihar, Lokesh R Boregowda, Srinath Sridhar, R Venkatesh Babu

## Skills

**Language** Python, C/C++, Java, Dart

**Tools/Library** Pytorch, Keras, Jax, Tensorflow, Docker, OpenCV, Blender, Flutter, Falcon

**Certifications** Deep Learning Specialization, Coursera – (2020) | Introduction to Abstract and Linear Algebra, NPTEL – (2018)

**Reviewer:** ACM Multimedia 23 | ACML 23 | AI-ML Systems 23 | WACV 24, 25 | CVPR 24 | ECCV 24 | ICLR 25 | ICCV 25

**Achievements:** Awarded Intern of the Month at Springworks. | Top 25 @Hack the Mountains 2.0 out of 500+ teams