Srinath Ravi

srinathr@andrew.cmu.edu | rsrinath14.github.io | linkedin.com/in/r-srinath14 | Google Scholar

Education

2025-26 MS in Computer Vision, **Carnegie Mellon University** | Pittsburgh, USA
Relevant Courses: Advanced Computer Vision, Visual Learning and Recognition, Learning for 3D, Intro to Robot Learning

2018-22 BE in Computer Science, **Dayananda Sagar College of Engineering** | Bengaluru, India
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 by 80%, significantly reducing production costs.
- Led a team to design automated pipelines for creating custom avatars and short-form videos, using advanced image and video generation models to deliver high-quality content at scale.

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

- Built an end-to-end pipeline to reconstruct immersive 3D vehicle models from a single 2-minute video, enabling scalable 3D visualization for Capital One's vehicle resale platform. 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 *CVPR 2026*
Srinath R*, Tao Lu*, Ankit Dhiman*, Emre Arslan, Angela Xing, Yuanbo Xiangli, R Venkatesh Babu, Srinath Sridhar

UniC-Lift: Unified 3D Intance Segmentation via Contrastive learning *AAAI 2026*
Srinath R*, Ankit Dhiman*, Jaswanth Reddy, Lokesh R Boregowda, 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, 26 | ECCV 24 | ICLR 25 | ICCV 25 | TPAMI
Achievements: Awarded Intern of the Month at Springworks. | Top 25 @Hack the Mountains 2.0 out of 500+ teams