AMAN AGARWAL

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https://aman190202.github.io/

EDUCATION

Brown University, *M.Sc. Computer Science,* GPA : 4.0/4.0 — Providence, RI | **Sept. 2024 - May 2026**
Courses**:** Computer Graphics, Computer Vision

SRM University, *B.Tech. Computer Science,* GPA: 3.98/4.0 — Tamil Nadu, India | **Sept. 2020 - May 2024**
Scholarship for Academic Excellence ; Top 1 percentile of cohort (2021)

RESEARCH EXPERIENCE

Indian Institute of Science, *Project Assistant Intern* — Bangalore, India | Jan. 2024 – May 2024

- Developed methodologies to improve the performance of novel view synthesis frameworks on sparse images
- Conducted ablation studies on research projects aiding and accelerating paper publication by over 3 weeks
- Delivered benchmark studies on novel frameworks before-time, centering out over 5 essential improvements in the paper

Stanford University, *Research Engineering Intern* — Stanford, CA | Oct. 2023 – Jan. 2024

- Integrated Apple's ARKit API with 3D reconstruction pipelines to replace COLMAP, decreasing processing time by 50%
- Researched on techniques to improve Neural Radiance Fields methods by introducing dense-sampling and eliminating over 100% of floater artifacts in results.

LEADERSHIP EXPERIENCE

Next Tech Lab, *Head of AI Operations and Research* — Tamil Nadu, India | Sept. 2022 - May 2024

- Recruited a team of over 50+ undergrad researchers in a span of over 2 years, guiding them to conduct novel research
- Hosted over 20+ talks, 5 hackathons and 3 research seminars, contributing significantly to the research culture
- Aided over 10+ students in securing research and industry internships, providing guidance throughout recruitment process

VISION, GRAPHICS AND ML PROJECTS

Volumetric Rendering for Clouds and Procedural Terrain, *Computer Graphics @ Brown* — Fall 2024

- Developed a ray-marcher from scratch to create realistic cloud renderings
- Developed a ray-tracer to create procedural terrain from fractal noise
- Integrated Open-MP to accelerate the renderings from hours to seconds [GitHub]

Neural Radiance Fields, *Computer Vision @ Brown* — Fall 2024

- Implemented a machine learning pipeline to predict the color and density of a point in 3D Space to generate novel views, given multiple input views of the scene [GitHub]

Cancer Cell Growth in Carbon Nanotubes, *Xu Lab at Carnegie Mellon University* — Fall 2023

- Predicted possible cancer growth regions by analyzing depth maps of carbon nanotubes
- Provided a statistical analysis of their growth sizes

Loving Vincent — Summer 2022

- Applied feature transformations on videos using Neural Style transfer, creating an illusion of moving painting frames

SKILLS & INTERESTS

Research: Computer Vision, Computer Graphics, Machine Learning, Neural Radiance Fields, Gaussian Splatting, Inverse Rendering, Data Science
Technical : Python3, C++, Bash, JavaScript
Libraries & Frameworks: PyTorch, TensorFlow, JAX, MLX, PyTorch3D, OpenGL, WebGL