

AMAN AGARWAL

Providence, RI | (401) 346-7274 | aman_agarwal1@brown.edu | linkedin.com/in/aman190202 | 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, 3D Vision & Machine Learning

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

AWARDS & ACHIEVEMENTS

- Selected as one of the top undergraduate ML researchers in India to attend **Amazon ML Summer School** (2022)
- Won MLH's SharkHacks3 for creating a Twilio based application that created a network of truck drivers to facilitate Emergency response (2021)

SKILLS & INTERESTS

Research: Computer Vision, Machine Learning, Neural Radiance Fields, Gaussian Splatting, Inverse Rendering

Technical : Python3, C++, Bash, JavaScript

Libraries & Frameworks: PyTorch, TensorFlow, JAX, MLX, PyTorch3D, OpenGL, WebGL