AMAN AGARWAL

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EDUCATION

SRM INSTITUTE OF SCIENCE & TECHNOLOGY Chennai, India
***Bachelor of Technology* | Computer Science & Engineering | CGPA: 9.27/10** August 2020 – May 2024

- **Awarded with a Scholarship for Academic Excellence - Top 1 percentile of cohort**

RESEARCH

INDIAN INSTITUTE OF SCIENCE Bengaluru, India
Research Intern, Visual Information Processing Lab January 2024 – Present
Advisor : Dr. Rajiv Soundararajan

- Benchmarked performance of Few-shot Gaussian Splatting without depth-priors and compared it against performance of SimpleNeRF on the basis of their SSIM scores.

STANFORD UNIVERSITY Stanford, California
Research Intern, Stanford Vision Lab November 2023 – Present
Advisor: Dr. Jiajun Wu

- Integrated AR-Kit with Zip-NeRF, replacing COLMAP processing time and accelerating the overall pipeline process by over 50%
- Researched Zip-NeRF on dense-sampled datasets collected via an iPhone to observe the appearances of floating clouds observed in low precision cameras based NeRFs, hence analyze necessity of Camera Preconditioning methodologies.

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY Chennai, India
Undergraduate Researcher, Department of Computational Intelligence June 2022 – Present
Advisor: Dr. Saad Yunus Sait, Dr. Athira. M. Nambiar

- Developing a novel methodology that expands the possibilities for VQA models by making them more adaptable and context-aware. The multi-contextual representation, achieved by rendering diverse views of scenes, opens avenues for improved performance in computer vision tasks and natural language understanding.

CARNEGIE MELLON SCHOOL OF COMPUTER SCIENCE Pittsburgh, Pennsylvania
Research Intern, Xu Computational Biology Lab August 2023 – December 2023
Advisor: Dr. Min Xu

- Developed methodologies to detect possibility of cancer cells in carbon nanotube forests and provided statistical analysis of possible growth rates and sizes.

UNIVERSITY OF ERLANGEN-NUREMBERG Bavaria, Germany
Research Intern, Factory of Automation for Production Systems October 2022 – June 2023
Advisor: Kedilioglu Oguz

- Led research on a 6-DoF pose estimation model for metallic objects, eliminating the need for fiducial markers.
- Modified compilation files for computer vision libraries, ensuring seamless compatibility on Ubuntu systems.

CONFERENCES & PUBLICATIONS

- Reviewer @ **ICLR'23 Workshop on Neural Fields** (May '23)

ACADEMIC & RESEARCH PROJECTS

Neural Radiance Fields from Scratch on Voxels August 2023

- Developed a vanilla Neural Radiance Fields model and the rendering module based on classical rendering techniques from scratch, without employing CuDNN libraries to enable cross-system functioning and modified float values to enable functionality on MPS based devices.

Smartphone-based Point-Cloud Generation May 2023

- Devised methodology for generating 3D point clouds from images taken with smartphones, offering a cost-effective and accessible solution for 3D modeling using low-quality input data. This approach saves 50% of storage space and eliminates the need for LiDAR technology by optimizing the existing Structure-from-Motion techniques.

COMMUNITY & LEADERSHIP

NEXT TECH LAB Chennai, India
Board Member, Machine Learning & AI April 2022 - Present

- Led SRM's most esteemed and internationally recognized research lab, honored with the prestigious QS Award.
- Managed a highly skilled team of 30+ researchers, ensuring the successful execution of their diverse projects.
- Overseen a plethora of cutting-edge research initiatives, comprising 25 machine learning projects and 15 research projects.

OTHERS

- Selected as one of the top undergraduate ML researchers in the country 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)