Stanley Edward

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Education

SRM Institute of Science and Technology - Chennai, India Jun 2022 – May 2026
B.Tech in Computer Science Engineering with spl. in Big Data Analytics *Overall GPA: 9.16/10.00*

Relevant Coursework: Calculus and Linear Algebra — Advance Calculus and Complex Analysis — Probability and Statistics — Discrete Math — Image Processing — Data Structures — Algorithms — Operating Systems — Databases — ML for Data Analysis — DL for Data Analysis — ANNs — CNNs — Generative Computer Vision — Compiler Design

Experience

Research Intern Apr 2025 – Present
Carnegie Mellon University *Pittsburgh, USA*

- Focusing on optimizing 3D scene representations at the Human Sensing Lab, led by Prof. Fernando De la Torre.
- Analyzed multiple primitive types for 3D Gaussian Splatting, yielding insights into their efficacy across different scene components and performance metrics.

Projects

High Performance Neural Networks | *CUDA, Nsight, C/C++*

- Reduced training epoch times by 49% by developing a GPU-accelerated neural network pipeline.
- Attained a 6x speedup by implementing L1 cache tiling and thread coarsening in FMA kernels.
- Developed an optimized Softmax kernel that reduced compute time by 2 orders of magnitudes through shared memory reduction and coalesced accesses.

Neural Radiance Fields | *PyTorch, Python*

- Executed the Neural Radiance Fields research methodology to deliver novel view synthesis and 3D scene reconstruction, achieving robust results on the NeRF synthetic datasets.
- Achieved an average Peak Signal-to-Noise Ratio score of 29.20 on the test set for View Synthesis.

Recursive Ray Tracing Engine | *OpenGL Math, C++*

- Leveraged Phong Illumination along with reflection and shadows to accurately simulate light physics.
- Implemented efficient ray-geometry intersection algorithms for 3D primitives at arbitary orientations.

Vision Transformers | *PyTorch, Python*

- Implemented the ViT-B/16 model from the research paper "An image is worth 16x16 words" in PyTorch.
- Authored a DataX Journal article about the transformative impact of the Transformer Architecture since 2020.

Technical Skills

Languages: Python, CUDA, C/C++, Bash.
Libraries: PyTorch, OpenCV, Scikit-learn
Software: Nsight, Git, WandB.
Tools: Unix/Linux, Vim, Conda, Tmux, LaTex.

Positions of Responsibility

Next Tech Lab | *Member of McCarthy Lab* Oct 2023 – Present

- Advanced a suite of deep learning projects, sharpening expertise in 3D/computer vision, and graphics domains.
- Fostered lab growth and collaboration by recruiting new associates and engaging in 20+ paper discussions, seminars, and talks to stay current with emerging research.

Data Science Community SRM | *Research Director* Jul 2024 – Aug 2025

- Co-led with 2 research supervisors to guide and mentor members on projects and initiatives.
- Architected a queue-based parallel computing framework, accelerating ML model processing by 3x across diverse content channels, including text, image, and video to enhance security of children in online environments.

Relevant Course Certifications

CSE167x: Computer Graphics | *UC San DiegoX* — Mar 2024

First Principles of Computer Vision Specialization | *Columbia University* — Feb 2024

Deep Learning Specialization | *DeepLearning.AI* — Dec 2023

Community Involvement

Computer Applications Tutor — Jun 2023 – Jul 2023
Children of God Foundation Orphanage — *Mumbai, India*

Public Relations Volunteer — Oct 2022
Aaruush SRMIST — *Chennai, India*

Member — Aug 2022 – Dec 2022
National Sports Organisation — *Chennai, India*

Awards

MOZOHACK 5.0 | *Runner-up* — Mar 2024

TechKnow SRM 2023 | *1st Prize* — April 2023