Jaidev Shriram Kariyatt

San Diego, CA · (619) 953-7110 · jkariyatt@ucsd.edu · linkedin.com/in/jaidev-shriram

Education

University of California, San Diego — Expected June 2024
Master of Science in Computer Science, **GPA: 4.0/4.0** — *San Diego, USA*

International Institute of Information Technology, Hyderabad — May 2022
Bachelor of Technology in Computer Science, **GPA: 9.37/10** — *Hyderabad, India*

Skills

Languages: Python, C, C++, MATLAB, JavaScript, HTML/CSS, Bash
Tools: PyTorch, Git, OpenCV, Kornia, Open3D, Pandas, Wandb, Tensorboard, Kubernetes, Docker,
Relevant Coursework: Machine Learning, Computer Vision, 3D Deep Learning, Probabilistic Models, Optimization

Publications and Patents (* = First author)

(Award Winner) Automated Soundtrack Construction*	*Comp. Vision, Machine Learning*	**ISMIR '22 (Patent Filed)**
Leveraging Attention for Indoor Layout Estimation	*Comp. Vision, Machine Learning*	**IROS '22 (Patent Filed)**
Analyzing Lyrical Preferences for Individuals At Risk of Depression*	*Data Analytics*	**SMM '21 @ INTERSPEECH**
3D Scene Synthesis Using Text-to-Image Diffusion Models*	*Comp. Vision, Machine Learning*	**In Preparation**

Experience

Computer Vision Researcher — March 2023 – Present
Center for Visual Computing, UCSD — *San Diego, USA*
- Built a novel technique for text based 3D generation, surpassing prior work in scene quality and scale, for use in VFX and AR/VR
- Extensively researched and studied large scale diffusion models, particularly as 2D priors for optimization

Computer Vision Intern — June 2023 – September 2023
Plus AI (Self Driving Truck Company) — *Santa Clara, USA*
- Improved 3D mapping quality by 20% using deep learning based feature extractors and matchers
- Achieved 90% time savings by automating a manual lane labelling pipeline using 3D semantic reconstruction

Computer Vision Researcher — May 2020 – May 2022
Robotics Research Center, IIIT-Hyderabad — *Hyderabad, India*
- Surpassed state of art by 10% on mapping indoor spaces, resulting in a top IEEE conference publication (IROS '22)
- Improved robot navigation by 27% in indoor simulations, with smarter routes afforded by our CNN map estimator

Computer Vision Researcher — January 2021 – May 2022
Kohli Center on Intelligent Systems, IIIT-Hyderabad — *Hyderabad, India*
- Published a breakthrough technique for book soundtracking using multi-modal machine learning techniques (ISMIR '22)
- Built a novel unsupervised text segmentation technique and improved prior text-video alignment using CLIP based ranking

Software Engineering Intern — June 2021– August 2021
Graphics and Experiential Media Lab, Dalhousie University — *Halifax, Canada*
- Funded by Mitacs (Globalink Scholarship) for a project to improve character navigation in Virtual Reality
- Devised novel pathfinding techniques on navigation graphs using spatial information, enhancing character realism

Academic Projects

Personalized, Diffusion Guided Text to 3D Generation | *Computer Vision, Machine Learning [Python]*
- Generated personalized 3D objects using a reference image and text customizations, reproducing Dreambooth3D (ICCV '23)

Neural 3D Reconstruction from Images | *Computer Vision, Machine Learning [Python]*
- Reconstructed complex 3D objects using neural radiance fields in PyTorch, achieving 30+ PSNR on novel view synthesis

Miscellaneous Computer Vision Algorithms | *Computer Vision, Machine Learning [Python]*
- Ranked #5/200 on an online food identification contest, using EfficientNets with MixUp data augmentation
- Implemented image captioning networks using RNN, LSTM, and multi-head transformer from scratch

Awards and Roles

Google Research Week (Computer Vision) India 2022 Participant
Organizer at Queer in AI | Leading a team of 10 to organize a workshop at NeurIPS 2023 on queerness and AI
Dean's Award for Academic and Research Excellence (*IIIT Hyderabad)*
Runner up at Megathon'19 (National Hackathon in India) | *Awarded by PricewaterhouseCoopers*