Sharath Girish

Mail: sgirish@umd.edu Website: sharath-girish.github.io

Education

University of Maryland, College Park **August 2019 - Present**
PhD. in Computer Science GPA: 4.0/4.0
Advisor: Prof. Abhinav Shrivastava

Indian Institute of Technology Madras, India **August 2015 - May 2019**
B.Tech. in Electrical Engineering GPA: 9.04/10

Research Interests

My research has been involved in efficient ML, improving the acceleration and compression of deep networks and data. I have also worked on efficient 3D/4D scene representations.

Publications

QUEEN: QUantized Efficient ENcoding for Streaming Free-viewpoint Videos
Sharath Girish, Tianye Li, Amrita Mazumdar, Abhinav Shrivastava, David Luebke, Shalini De Mello
Under review

EAGLES: Efficient Accelerated 3D Gaussians with Lightweight EncodingS
Sharath Girish, Kamal Gupta, Abhinav Shrivastava
To appear at The European Conference on Computer Vision (**ECCV**), 2024

SHACIRA - Scalable HAsh-grid Compression for Implicit Neural Representations
Sharath Girish, Abhinav Shrivastava, Kamal Gupta
IEEE International Conference on Computer Vision (**ICCV**), 2023

NIRVANA: Neural Implicit Representations of Videos with Adaptive Networks and Autoregressive Patch-wise Modeling
Shishira R Maiya*, *Sharath Girish**, Max Ehrlich, Hanyu Wang, Kwot Sin Lee, Patrick Poirson, Pengxiang Wu, Chen Wang, Abhinav Shrivastava
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2023

LilNetX: Lightweight Networks with EXtreme Model Compression and Structured Sparsification
Sharath Girish, Kamal Gupta, Saurabh Singh, Abhinav Shrivastava
International Conference on Learning Representations (**ICLR**), 2023

Moving Beyond Handcrafted Architectures in Self-Supervised Learning
Sharath Girish, Debadeepta Dey, Neel Joshi, Vibhav Vineet, Shital Shah, Caio Cesar Teodoro Mendes, Abhinav Shrivastava, Yale Song
Under review

Towards Discovery and Attribution of Open-world GAN Generated Images
*Sharath Girish**, Saksham Suri*, Saketh Rambhatla, Abhinav Shrivastava
IEEE International Conference on Computer Vision (**ICCV**), 2021

The Lottery Ticket Hypothesis for Object Recognition
*Sharath Girish**, Shishira R Maiya*, Kamal Gupta, Hao Chen, Larry Davis, Abhinav Shrivastava
IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2021

A Unified Learning-Based Framework for Light Field Reconstruction From Coded Projections
Anil Kumar Vadathya, *Sharath Girish*, Kaushik Mitra
IEEE Transactions on Computational Imaging (**TCI**), 2019

Unconstrained Motion Deblurring for Dual-lens Cameras
Mahesh Mohan MR, *Sharath Girish*, AN Rajagopalan
Proceedings of the IEEE International Conference on Computer Vision (**ICCV**), 2019 (**Oral**)

*Equal contribution

A Deep Learning Framework for Light Field Reconstruction From Focus-Defocus Pair: A minimal hardware approach
Anil Kumar Vadathya, *Sharath Girish*, Kaushik Mitra
Computational Cameras and Displays Workshop, Conference on Computer Vision and Pattern Recognition **CVPRW** 2018

Professional Experience

Research Intern, NVIDIA Research, AMRI Team **Jan 2024 - April 2024**
Mentor - Shalini De Mello
Worked on streaming applications for Gaussian Splatting

Applied Scientist Intern, Amazon **May 2023 - August 2023**
Mentor - Yifan Xing
Worked on Open-World Semi-Supervised Learning

Research Intern, Microsoft Research **May 2021 - August 2021**
Mentor - Dr. Yale Song, Dr. Debadeepta Dey
Worked on application of Neural Architecture Search on Self Supervised Learning

Graduate Research Assistant, University of Maryland **May 2020 - Present**
Mentor - Prof. Abhinav Shrivastava
Working on Open World Image Attribution and Model, Data Compression

Graduate Research Assistant, University of Maryland **August 2019 - May 2020**
Mentor - Prof. Rama Chellappa
Worked on Activity Recognition by splitting models based on input video modalities or output activity types to improve performance.

PhD Coursework

Algorithms in Machine Learning : Guarantees and Analyses, Deep Learning, Advanced Numerical Optimization, Statistical Pattern Recognition, Advanced Techniques in Visual Learning and Recognition

Miscellaneous

- **Outstanding Graduate Assistant Award** - UMD AY 2023-24
- **Reviewer** - CVPR, ICCV, ECCV, ICLR, NeurIPS, WACV
- **Dean's Fellowship** awarded by the University of Maryland, 2019
- **All India Rank - 274** in JEE-Advanced 2015, taken by 1.3 million students (top 0.02%)
- Awarded **KVPY** scholarship in 2014 and the **NTSE** scholarship in 2013 by Government of India