Gaurav Shrivastava

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Education

2019–current **University of Maryland, College Park**.
PhD in Computer Science – Advisior: Dr. Abhinav Shrivastava – Broad Research Areas: Video Foundation models, Computational Photography models, Video Diffusion models, Video generation models and LLMs

2013–2017 **Birla Institute of Technology and Sciences, Pilani Campus**.
Bachelors of Engineering (Hons.) in Electronics and Instrumentation

Selected Publications

CVPR 24 'Video Prediction by Modeling Videos as Continuous Multi-Dimensional Processes',**G. Shrivastava**, A. Shrivastava, ***(CVPR)*** *2024*

ICLR 24 'Video Decomposition Prior: Editing Videos Layer by Layer', **G. Shrivastava**, SN Lim, A. Shrivastava, ***(ICLR)*** *2024*

NeurIPS 23 'Video Dynamics Prior: An Internal Learning Approach for Robust Video Enhancements', **G. Shrivastava**, SN Lim, A. Shrivastava, ***(NeurIPS)*** *2023*

ICLR 22 (Workshop) 'Recognizing Transforming Actions via Object State Transformations', N. Saini, B. He, **G. Shrivastava**, S.S. Rambhatla, A. Shrivastava, *Workshop on the Elements of Reasoning.* ***(ICLR)*** *2022*

ICLR 21 'Diverse Video Generation using Gaussian Process', **G. Shrivastava**, A. Shrivastava, ***(ICLR)*** *2021*

CVPR 21 'Hierarchical Video Prediction using Relational Layouts for Human-object Interactions', N. Bodla, **G. Shrivastava**, R. Chellappa, A. Shrivastava, *Computer Vision and Pattern Recognition.* ***(CVPR)*** *2021*

IWCS 17 (Workshop) 'GeoDict: An Integrated Gazetteer', J. Fize, **G. Shrivastava**, *12th International Conference on Computational Semantics workshop.* ***(IWCS)*** *2017*

Research Experience

May - Aug 2023 **Google Research**, *Team: Perception*, (Dr. Saurabh Singh, Dr. Yair Alon, Dr. Josh Dillon).
Developed a novel diffusion based approach to synthesize videos based on text/image input modalities.

May - Aug 2022 **Meta AI Research**.
Developed a novel approach to denoise a 3D dynamic scene in context-aware manner.

Jun - Aug 2021 **Bytedance Inc.**, *TikTok*, (Dr. Ari Shapiro).
Developed an original approach with Generative Adversarial Network (GAN) models to synthesize non-verbal gestures.

Feb - July 2019 **University of Maryland, College Park**, *Faculty Assistant*, (Dr. Abhinav Shrivastava, Dr. Larry Davis).
Worked towards the realization of deep generative models for the synthesis of new video frames.

April - Sept 2018 **National University of Singapore**, *Visiting Researcher*, (Dr. Harold Soh).
Worked towards the development of a novel temporal model to predict the mortalities due to environmental stressors.

Jan - Jun 2017 **CNRS Research Unit Montpellier, France** , *Bachelor's Thesis*, (Dr. Mathieu Roche).
Processed and created a method to extract and disambiguate the spatial entities from processed textual data.

May - Aug 2015 **Xerox Research Center India Bangalore, India**, *Summer Internship*, (Dr. Vaibhav Rajan).
Modeled a recommender system using the IMC Matrix Completion for prognosis in patients admitted in the I.C.U.

Technical Skills

DeepNN - JAX, PAX, FLAX, DIFFUSERS, PyTorch, Pytorch Lightning, GPyTorch, TensorFlow, Keras, Theano

Languages - C, Java, Python, R, Matlab/Octave, HTML5, CSS, Blender (Software Package)

Academic Services/Achievements

2023 **Reviewer** conferences. ***CVPR(24,22,21,20)***, ***ICLR(24,22)***, ***ECCV - 22***, ***ICCV(23,21)***, ***NeurIPS - 23***

2021 Secured the **Dean's Fellowship** for pursuing a PhD degree in Computer Science at University of Maryland

2020 Served on **Masters admission committee** for computer science department at the University of Maryland

2012 Selected for estimable Kishore Vaigyanik Protsahan Yojana (**KVPY**) **scholarship** by Govt.Of India