ShahRukh Athar

Work

2024– **Member of Technical Staff**, *Mirage*, New York, USA.
Core Contributor/Developer of Mirage. I work on pre-training, inference quality optimization and post-training of multimodal foundation models. *mirage.app, Website and Whitepaper*

Education

2018–2025 **Ph.D. Computer Science**, *Stony Brook University*, New York, USA.
GPA:3.97/4.00

2016–2018 **M.Sc Data Science**, *Skolkovo Insitute of Science and Technology*, Moscow, Russia.
GPA: 4.79/5.00

2012–2016 **B.Sc (Research) Physics**, *Shiv Nadar University*, Gautam Buddha Nagar, India, Minor: Mathematics.
GPA: 8.23/10.0

Teaching Experience

Stony Brook University

Fall 2018 **TA**, *CSE101: Introduction to Computational and Algorithmic Thinking*.

Shiv Nadar University

Spring 2016 **TA**, *CSD-201: Introduction to Data Structures*.

Monsoon 2013 **TA**, *PHY-105: Introduction to Computational Physics I*.

Spring 2014 **TA**, *PHY-102: Introduction to Physics II*.

Monsoon 2014 **TA**, *PHY-105: Introduction to Computational Physics I*.

Publications

2024 ShahRukh Athar, Shunsuke Saito, Zhengyu Yang, Stanislav Pidhorskyi and Chen Cao. *Bridging the Gap: Studio-like Avatar Creation from a Monocular Phone Capture* European Conference on Computer Vision (ECCV), 2024, **Oral**.

2024 Alfredo Rivero*, ShahRukh Athar*, Zhixin Shu, Dimitris Samaras. *Rig3DGS: Creating Controllable Portraits from Casual Monocular Videos* (*Equal Contribution)

2024 ShahRukh Athar, Zhixin Shu, Zexiang Xu, Fujun Luan, Sai Bi, Kalyan Sunkavalli, Dimitris Samaras. *Controllable Dynamic Appearance for Neural 3D Portraits* International Conference on 3D Vision 2024, 3DV 2024.

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www.github.com/srxdev0619

2023 ShahRukh Athar, Zhixin Shu and Dimitris Samaras. *FLAME-in-NeRF: Neural control of Radiance Fields for Free View Face Animation.* 16th IEEE International Conference on Automatic Face & Gesture Recognition (FG 2023), 2023.

2022 ShahRukh Athar, Zexiang Xu, Kalyan Sunkavalli, Eli Shechtman, Zhixin Shu. *RigNeRF: Fully Controllable Neural 3D Portraits.* IEEE / CVF Computer Vision and Pattern Recognition Conference (CVPR), CVPR 2022.

2021 Aggelina Chatziagapi*, ShahRukh Athar*, Francesc Moreno Noguer and Dimitris Samaras. *SIDER: Single-Image Neural Optimization for Facial Geometric Detail Recovery.* International Conference on 3D Vision (3DV) 2021. (*Equal Contribution)

2021 Jingyi Xu, Hieu Le, Mingzhen Huang, ShahRukh Athar and Dimitris Samaras *Variational Transfer Learning for Fine-grained Few-shot Visual Recognition.* International Conference on Computer Vision (ICCV) 2021.

2021 ShahRukh Athar, Albert Pumarola, Francesc Moreno Noguer and Dimitris Samaras. *FaceDet3D: Facial Expressions with 3D Geometric Detail Prediction* arXiv.

2020 ShahRukh Athar, Zhixin Shu and Dimitris Samaras. *Self-supervised Deformation Modeling for Facial Expression Editing.* 15th IEEE International Conference on Automatic Face & Gesture Recognition (FG 2020), 2020.

2019 ShahRukh Athar, Evgeny Burnaev, Victor Lempitsky. *Latent Convolutional Models.* International Conference on Learning Representations (ICLR), 2019.

2018 ShahRukh Athar, Abhishek Vahadane, Ameya Joshi, Tathagato Rai Dastidar. *Weakly Supervised Fluid Filled Region Localization In Retinal OCT Scans*. International Symposium on Biomedical Imaging (ISBI), 2018.

Internships

May 2023 - Nov 2023 Meta Reality Labs. Worked on in-the-wild Codec Avatars

May 2022 - Dec 2022 Research Intern at Adobe. Worked on making robust, re-animatable neural portraits.

May 2021 - April 2022 Research Intern at Adobe. Worked Re-animatable Portrait Videos.

Summer 2020 Applied Scientist Intern at Amazon Lab126

Worked on 3D Face Models.

Summer 2017 Intern at SigTuple, Bangalore

Worked on weakly supervised fluid-filled region localization in Retinal OCT scans.

Summer 2016 Intern at Computational Materials Discovery Laboratory, Moscow Institute of Physics and Technology

Worked on using deep learning in crystal structure and property prediction.

Summer 2015 Intern at Computational Materials Discovery Laboratory, Moscow Institute of Physics and Technology

Worked on machine learning algorithms for crystal structure and property prediction. Created the Anduril neural network library.

Master's thesis

2018 Latent Convolutional Models

In my thesis, I worked on a latent model of images that served as a strong universal prior for a wide variety of image restoration tasks.

Undergraduate thesis

2016 Predicting Amplitudes of the *e*A (Electron-Ion) interaction with Machine Learning

For my undergraduate thesis I used neural networks to predict amplitudes of electron-ion collisions. The predictions of amplitudes is essential to study the structure of the nucleus of the ion.

Scholarships and Awards

2020 Accepted for the Doctoral Consortium at the 15th IEEE International Conference on Automatic Face & Gesture Recognition (FG 2020), 2020

2016-Present Full Scholarship at Skolkovo Institute of Science and Technology

2012-2016 Full Tuition Fee Waiver at Shiv Nadar University

Academic Service

Reviewer CVPR2021, NeurIPS2020, ECCV2020

Programming Languages and Technologies

Languages C, C++, Python, JavaScript, Matlab, Common Lisp

DL Frameworks PyTorch, Keras, Tensorflow, Lasagne, Theano

Projects

Anduril

Anduril is a neural network library written in C++ for python.

Documentation: `http://srxdev0619.github.io/Anduril-stable/`

Code: `github.com/srxdev0619/Anduril-stable`

Input Generator

A webapp that generates input files for the USPEX algorithm.

Link: http://han.ess.sunysb.edu/input_generator/

Narsil

Narsil is an Octree library for use with the Sartre event generator.