Aakash KT

Ph.D Candidate, CVIT, IIIT Hyderabad

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Introduction

I am a final year Ph.D candidate at CVIT, IIIT Hyderabad, supervised by Dr. P. J. Narayanan. My research involves playing around with the light transport equation towards real-time performance, differentiable rendering and neural rendering.

Experience

Jan 2024 - Mar 2024 **Course Instructor, Computer Graphics**, *IIIT Hyderabad*.
Re-designed the course to focus on path tracing.

Aug 2022 - Jan 2023 **Research Scientist Intern**, *Meta Reality Labs, Pittsburgh*.
Manager: Dr. Giljoo Nam
Working towards accelerating photorealistic rendering of human hair with multiple scattering.
Other team members: Matt Jen-Yuan Chiang, Olivier Maury, Christoph Hery, Carlos Aliaga & Adrian Jarabo

2017 - 2020 **Research Assistant**, *CVIT, IIIT Hyderabad*.
Advisor: Dr. P. J. Narayanan
Worked on Neural Rendering for specific usecases and appearance editing from captured photographs. I also worked on depth estimation from focus images and explored deep generative models for domain adaptation.

2017 summer **SDE intern**, *Linux Foundation*.
I worked on the JOID installer for deploying SDN (Software-defined networks) solutions. Specifically, my work helped automate the deployment of Kubernetes with OVN as the SDN. I also worked on automating the deployment of Clearwater vIMS on Kubernetes. I was invited to present my work at the OPNFV Plugfest at **Intel, Portland, USA.**

Education

2020 - 2024 (Expected) **Ph.D in Computer Science**, *IIIT Hyderabad*.
Advisor: Prof. Dr. P. J. Narayanan, **CGPA:** 8.0/10.0
Working on accelerating physically based rendering via analytic solutions and efficient neural approximations of the rendering equation.

2015 - 2020 **BTech and MS by Research in Computer Science**, *IIIT Hyderabad*.
CGPA: 7.21/10.0
Relevant courses: Computer Graphics, Computer Vision, Digital Image Processing, Artificial Intelligence, Statistical Methods in AI, Optimization Methods, Advanced Computer Networks, Operating Systems, Software Engineering.

Publications

SIGGRAPH Asia 2023 **Combining Resampled Importance & Projected Solid Angle Samplings for Many Area Light Rendering**, *Tech. Comm.*
Ishaan Shah*, **Aakash KT***, P. J. Narayanan

EGSR 2023 **Accelerating Hair Rendering by Learning High-Order Scattered Radiance**, *CGF, Full Paper.*
Aakash KT, Adrian Jarabo, Carlos Aliaga, Matt Jen-Yuan Chiang, Olivier Maury, Christophe Hery, P. J. Narayanan, Giljoo Nam

I3D 2022 **Bringing Linearly Transformed Cosines to Anisotropic GGX**, *Best Paper Award*.
Aakash KT, Eric Heitz, Jonathan Dupuy, P. J. Narayanan

ICVGIP 2022 **Real-Time Rendering of Arbitrary Surface Geometries using Learnt Transfer**, *Full Paper.*
Dhawal Sirikonda, **Aakash KT**, P. J. Narayanan

HPG 2022 **Learnt Transfer for Surface Geometries**, *Poster.*
Dhawal Sirikonda, **Aakash KT**, P. J. Narayanan

EG 2022 **Transfer Textures for Fast Precomputed Radiance Transfer**, *Poster.*
Dhawal Sirikonda, **Aakash KT**, P. J. Narayanan

EGSR 2021 **Fast Analytic Soft Shadows from Area Lights**, *Full Paper.*
Aakash KT, Parikshit Sakurikar, P. J. Narayanan

ICVGIP 2021 **Neural View Synthesis with Appearance Editing from Unstructured Images**, *Full Paper.*
Pulkit Gera, **Aakash KT**, Dhawal Sirikonda, Parikshit Sakurikar, P. J. Narayanan

SIGGRAPH Asia 2019 **A Flexible Neural Renderer for Material Visualization**, *Technical Brief.*
Aakash KT, Parikshit Sakurikar, Saurabh Saini, P. J. Narayanan

Achievements & Activities

2022 **Best Paper Award**, *I3D 2022.*
Received NVIDIA RTX 3090 as the prize.

2022 **Tertiary Reviewer**, *ICVGIP 2022.*

2021 **Tertiary Reviewer**, *Pacific Graphics 2021.*

2020 **KCIS Ph.D fellowship**.
Received the KCIS Ph.D fellowship for my research.

2019 **Microsoft Research Travel Grant**.
Received a travel grant from Microsoft to present my work at **SIGGRAPH Asia 2019**.

2018 **CANSAT competition, NASA**, *Texas, USA.*
Participated in the CANSAT competition in which teams build a payload that is released from a height of thousand meters. The task is to perform various maneuvers and get back to land, all without damaging an egg kept inside the payload. **Secured a world rank of 24 as co-team leader.**