

Aakash KT

Qualcomm - Graphics Research Team

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Introduction

I am a Senior Graphics Research Engineer in the Graphics Research Team at Qualcomm. I completed my Ph.D (defense pending) in Computer Graphics at IIIT Hyderabad, supervised by Prof. Dr. P. J. Narayanan.

Experience

Jun 2024 - **Senior Graphics Research Engineer, Qualcomm.**

Present I am involved in pre-silicon research explorations for Qualcomm's next-generation Adreno GPUs. I am also involved in real-time physically based rendering & GPU acceleration structures research.

Jan 2024 - **Course Instructor, Computer Graphics, IIIT Hyderabad.**

Mar 2024 Re-designed the course for path tracing.

Aug 2022 - **Research Scientist Intern, Meta Reality Labs, Pittsburgh.**

Jan 2023 **Manager:** Dr. Giljoo Nam

Worked on accelerating photorealistic rendering of human hair with multiple scattering. Resulting worked was published at EGSR 2023 and the research code (written in OptiX & CUDA) was open-sourced.

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. Also worked on depth estimation from focus images and explored deep generative models for domain adaptation.

Education

2020 - 2024 **Ph.D in Computer Science, IIIT Hyderabad.**

(Defense Pending) **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**.