

Ishaan Shah

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Introduction

I am a 5th year Dual Degree student at IIIT Hyderabad supervised by Dr. P. J. Narayanan. My research revolves around light transport theory and material appearance modeling. Specifically, I am interested in combining stochastic and analytic methods to improve rendering algorithms. Check out my publications to get to know more about my research.

Work experience

Research Assistant

Advisor: Prof. P.J. Narayanan

IIIT-H

2021-Present

- Worked on application of analytical method to improve convergence speed in direct lighting.
- Currently working on efficient rendering of glinty appearance with Dr. Adrien Gruson and Dr. Luis Gamboa.

Research Intern

Manager: Dr. Prathiba Moogi

IBM Research

Summer 2021

- Worked on the OpenShift observability stack to find its shortcomings and developed solutions to improve them.
- Was involved in authoring a patent, which was granted by the US Patent Office.

Student System Administrator

IIIT-H

Hyderabad

2021-Present

- Responsibilities include managing, troubleshooting, maintaining, and improving college IT & network infrastructure.
- Migrated the Gateway Server and Edge Routers to PfSense from a Linux-based setup.
- Improved the monitoring stack by migrating from Nagios to Prometheus + Grafana.
- Helped in migration of internal nameserver from BIND to PowerDNS.

Summer Intern

GSoC 2020

MetaBrainz Foundation

Summer 2020

- Worked on ListenBrainz, a website that allows users to track their music listening history and get useful recommendations and statistics.
- My project involved creating statistics and visualizations for the users and the community.
- Read more about the project in [this blog](#)

Education

M. S. in Computer Science

Advisor: Prof. P.J. Narayan

IIIT-H

2023-2024 (Expected)

Thesis topic: Working on application of analytical methods for enhancing the convergence speed and appearance modeling in light transport simulations.

B. Tech in Computer Science

CGPA: 8.9/10

IIIT-H

2019-2023

Relevant courses: Computer Graphics, Advanced Graphics: AR & VR, Digital Image Processing, Medical Image Analysis, Statistical Methods in AI.

Publications

SIGGRAPH Asia 2023	Combining Resampled Importance & Projected Solid Angle Samplings for Many Area Light Rendering Ishaan Shah* , Aakash KT*, P. J. Narayanan Technical Communications
ICVGIP 2021	Automated tree generation using grammar & particle system Aryamaan Jain, Jyoti Sunkara, Ishaan Shah , Avinash Sharma, K. S. Rajan
US Patent	Application event logging augmentation Ishaan Shah , Seema Nagar, Pooja Aggarwal, Pratibha Moogi

Technical skills

Programing Languages	C/C++, CUDA, Python, Javascript
Frameworks	Vulkan, OpenGL
Tools	Git, GNU/Linux, L ^A T _E X

Project

Ray Tracer GitHub	<i>2022</i>
<ul style="list-style-type: none">• A minimal GPU accelerated ray tracer written in OpenGL.• Features include next-event estimation, GGX BSDF, BVH acceleration, and more.	
HPG Student Competition GitHub	<i>2022</i>
<ul style="list-style-type: none">• Optimized the given ray tracer code to reduce variance and increase speed.• Applied various optimizations ranging from better light sampling to faster intersection tests.	
Skye Force GitHub	<i>2022</i>
<ul style="list-style-type: none">• A 3D space shooter game built using WebGL.	
POSIX Shell GitHub	<i>2020</i>
<ul style="list-style-type: none">• A shell written purely in C using only basic system calls• Functionalities include basic shell commands, background processes, redirection and piping.	

Awards and Achievements

- Deans List Awardee
- AIR 3,044 in JEE Advanced 2019
- AIR 3,734 in JEE Mains 2019