Pulkit Gera

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EDUCATION

IIIT HYDERABAD

B.Tech + MS by Research in CS
September,2022 | Hyderabad,India
CGPA: 8.77 / 10.0

COURSEWORK

RESEARCH

Statistical Methods in AI
(Teaching Assistant 2x)
Computer Graphics
Computer Vision
Mobile Robotics
Optimization Methods
Multivariate Analysis

COMPUTER SCIENCE

Data Structures
Operating Systems
Database Systems
Algorithms
Advanced Computer Networks
Unix Tools and Scripting

SKILLS

PROGRAMMING

Languages
Python • C++ • Shell • Javascript
GO • Matlab • SQL • Ruby on Rails
Libraries
Metashape • Mitsuba 2 • COLMAP •
PyTorch • Tensorflow • OpenGL
Technologies
Github • Docker • Meshlab • Blender •
Blender-python • SLURM

LANGUAGES

English (Fluent) • German (A2) • Hindi

ACHIEVMENTS

AWARDS

•Dean's List for Academic Excellence
•Secured first position in Megathon,2019 in Big Data Track
•Finished 3rd in AIcrowd Blitz,out of 350+ teams

POSITIONS

•Head Finance, E-Cell,IIIT Hyderabad(2019)
•Web Admin, E-Cell,IIIT Hyderabad(2018)

PUBLICATIONS

Casual Indoor HDR Radiance Capture from Omnidirectional Images. Pulkit Gera, Mohammad Reza Karimi Dastjerdi, Charles Renaud, P. J. Narayanan, Jean-François Lalonde. British Machine Vision Conference 2022

Neural view synthesis and appearance editing from unstructured images. Pulkit Gera, Aakash KT, Dhawal Srikonda, PJ Narayanan. Indian Conference on Computer Vision, Graphics and Image Processing 2021

RESEARCH

VISUAL COMPUTING AND AI,MPI-INF | Research Intern, Advisor : Dr Vladislav Golyanik,Dr Christian Theobalt

October 2022 - | Saarbrücken,Germany
Formulated a novel framework based on 3D Gaussian Splatting that enables real-time photorealistic rendering of real humans from novel views under arbitrary input illumination. Setup and captured multiple full-body subjects under various light patterns (OLAT,Spherical Gradient,etc) in a specialized Lightstage.

CENTER FOR VISUAL INFORMATION TECHNOLOGY,IIIT-H | Research Assistant, Advisor : Dr P.J. Narayanan

May 2018 – September 2022 | Hyderabad, India
This **master's thesis** investigates solutions that capture scenes casually from off the-shelf devices which can be modified in exciting directions such as editing the material or augmenting new objects into the scene.

UNIVERSITE DE LAVAL | Research Intern, Advisor: Dr Jean Francois Lalonde

May 2021 – September 2022 | Quebec City, Canada
Internship under MITACS Globalink. Designed a NeRF based representation of HDR radiance field of an indoor scene that can be captured casually. Presented at BMVC 2022 and OmniCV2022,CVPR-W

INFORMATION RETRIEVAL AND EXTRACTION LAB,IIIT-H | Independent Study, Advisor: Dr Vasudeva Verma,Dr Balaji Vasan Srinivasan

July 2020 – June 2021 | Hyderabad,India
Leveraged visio-linguistic transformers like OSCAR to encode visual and textual information and GPT as decoder to summarize long multimodal news articles.

EXPERIENCE

SEGMIND SOLUTIONS | Deep Learning Intern

Aug 2020 - Oct 2020 | (Remote)Bangalore,India

- Ported multiple semantic segmentation algorithms into a single framework
- Reduced lines of code to setup an object detection framework to 5 lines.

DREAMVU INC | Computer Vision Intern

June 2019 – July 2019 | Hyderabad,India

- Designed tools to benchmark images captured with various SOTA algorithms.
- Assisted in capturing data and improving image quality captured by the camera.

PROJECTS

MipNeRF

Pytorch port for multiscale representation for anti aliasing NeRF.