

Shubh Maheshwari

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Education

IIIT - HYDERABAD

B.TECH IN COMPUTER SCIENCE

2016-2020 Hyderabad, India

- Honors
- CGPA:8.26/10
- Merit List - 2017

SECONDARY SCHOOL

- Class X - 92.17/100.0
- Class XII - 88.46/100.0

Links

GitHub **shubhMaheshwari**
 LinkedIn **shubh-maheshwari**
 Twitter **maheshwarishub9**

Coursework

Introduction to AI
 Statistical Methods in AI
 Optimisation Methods
 Computer Vision
 Computer Graphics
 Game Design
 Distributed Systems
 Database Systems
 Operating Systems
 Linear Algebra
 Data Structures & Algorithms

Skills

Python • C/C++ • Matlab • Shell •
 LaTeX • HTML • JavaScript
 Pytorch • Pybind11 • Eigen • Open3D •
 Blender • Git • OpenCV • PyCUDA

Other Projects

Motion Deblurring in Depth Images using RGB as Prior

Tunnel Rush - WebGL Game

Minecraft edition: Legend of Zelda - 3D OpenGL Game

AI bot to play 4*4*4*4 tic-tac-toe

Optimizing Color Consistency in Photo Collections

Transferring font using BicycleGAN

Skhell-A custom Linux shell program written in C.

ShareFile - Distributed file system

Miscellaneous

JEE Mains - All India Rank 503. Top 0.038% among 1.3 million students.
 JEE Advanced - All India Rank 1400. Top 7% among 0.2 million students.

Experience

RESEARCHER

TCS INNOVATION LABS - DEEP LEARNING AND AI

Sep 2020 - Present

Ramya Hebbalaguppe & Prof. Rahul Narain

- We are creating a frugal motion capture framework to democratize 3D content creation. Our novel pipeline requires only a single-view video, is category agnostic and allows motion transfer between different creatures
- Furthermore we make contributions to crucial components of the pipeline like non-rigid registration(without template or markers), skinning decomposition, skeletonization, and shape correspondence.

RESEARCH ASSISTANT

May 2019 - Present

Prof. Ravi Kiran

- Our deep learning model MUGL enables large-scale(> 100 activities), diverse, and variable length generation of single and multi-person pose-based action sequences with locomotion.
- Overcame several shortcomings of MUGL by incorporating dedicated representations for finger joints and introducing a novel spatio-temporal transformation block with multi-head self attention.
- Studied current and upcoming frontiers of skeleton-based human action recognition. Also, introduced several datasets: Skeletics-152 (a large-scale action dataset), Skeleton-Mimetics (out-of-context actions) and Metaphorics (caption-style annotation of Dumb Charades and interpretative dance)

TEACHING ASSISTANT

STATISTICAL METHODS IN AI & OPTIMISATION METHODS

Aug 2019 - April 2020

IIIT-H

- In both courses, partnered with the professor and fellow TAs to manage a classroom of greater than 200 students.
- Created, supervised, and graded homework assignments, exam papers, and classwork for students.

Publications

1. DSAG: A Scalable Deep Framework for Action-Conditioned Multi-Actor Full Body Motion Synthesis, *WACV-2023*
2. MUGL: Large Scale Multi Person Conditional Action Generation With Locomotion, *WACV 2022*
3. Quo Vadis, Skeleton Action Recognition? *IJCV 2021*
4. Modeling and Mitigation of Cross-Origin Request Attacks on Federated Identity Management Using Cross-Origin Request Policy, *ICISS 2017*

Projects

GOOGLE SUMMER OF CODE

HUMAN RE-IDENTIFICATION USING MULTI-MODAL PERCEPTION SYSTEM

May 2020 - Aug 2020

Robocomp

- Facilitation of human identification using different modalities like face recognition, gait recognition, and person re-identification.
- Integration of the pipeline into robotics framework - Robocomp.

HONOR'S PROJECT

August 2018 - April 2020

Prof. CV Jawahar, CVIT

- Document Tampering detection: Finding fake identity cards, receipts, and text using noise pattern of camera and patch matching to detection of the photoshopped region in document
- Development of a humanoid robot which recognizes people and gives a tour. of the college. The agent can track, tell jokes, listen and chat with the user. Integrated mobile application, ROS operating system, and deep learning models