# Siddharth Katageri

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## INTERESTS

3D Computer Vision, Human-Scene Interaction, Representation Learning

## EDUCATION

**International Institute of Information Technology, Hyderabad (IIIT-H)**     Aug 2021 - Jul 2024
Masters by Research, Computer Science and Engineering, GPA: 8.57/10

**KLE Technological University, Hubballi**     Jul 2017 - Jun 2021
B.Eng. in Computer Science and Engineering, GPA: 8.66/10

## EXPERIENCE

**International Institute of Information Technology, Hyderabad (IIIT-H)**
*Research Fellow* - Machine Learning Lab (MLL)     Aug 2021 - Present
advised by **Prof. Charu Sharma** and **Prof. Kai Han**

- Working on 3D Computer Vision topics like representation learning in non-euclidean spaces, domain adaptation, and learning human-scene interactions.

**KLE Technological University, Hubballi**
*Research Intern* - Center of Excellence in Visual Intelligence (CEVI)     Mar 2021 - Aug 2021
advised by **Prof. Uma Mudenagudi**

- Worked on the task of 3D shape decomposition into basic primitive shapes towards improving the performance of various 3D analysis tasks.

**Indian Institute of Technology, Delhi (IIT-D)**
*Project Trainee*     Jun 2019 - Jul 2019

- Worked with **Prof. Prem Kumar Kalra** and his Ph.D. students on the project "Drilling Effectualness", which was a collaborative project with AIIMS, Delhi.

## PUBLICATIONS

**Synergizing Contrastive Learning and Optimal Transport for 3D Point Cloud Domain Adaptation** ⬈
Siddharth Katageri*, Arkadipta De*, Chaitanya Devaguptapu*, VSSV Prasad, Charu Sharma, Manohar Kaul
*Winter Conference on Applications of Computer Vision* (WACV), 2024, **Oral**

**Metric Learning for 3D Point Clouds Using Optimal Transport** ⬈
Siddharth Katageri, Srinjay Sarkar, Charu Sharma
*Winter Conference on Applications of Computer Vision Workshops* (WACVW), 2024 - Pretrain ⬈

**ABD-Net: Attention Based Decomposition Network for 3D Point Cloud Decomposition** ⬈
Siddharth Katageri, Shashidhar Kudari, Akshay Gunari, Ramesh Tabib, Uma Mudenagudi
*International Conference on Computer Vision Workshops* (ICCVW), 2021 - StruCo3D ⬈

**PointDCCNet: 3D Object Categorization Network using Point Cloud Decomposition** ⬈
Siddharth Katageri, Sameer Kulmi, Ramesh Tabib, Uma Mudenagudi
*Conference on Computer Vision and Pattern Recognition Workshops* (CVPRW), 2021 - WiCV ⬈

## PAST AND ONGOING PROJECTS

**Learning Human-Object Interactions in Real 3D Scenes** (*ongoing*)
Summary: We are interested in building systems that comprehend human motion and interactions in 3D environments and are actively working on it.

**3D Object Detection and Tracking in Outdoor LiDAR Scans.**
Summary: We worked on benchmarking various SoTA methods across multiple datasets for the task of outdoor 3D Object Detection and Tracking, which was a preprocessing step to remove dynamic objects from 3D scans towards building a 3D City Map. This project was carried out under the supervision of **Prof. Avinash Sharma** and **Prof. Charu Sharma**.

**Vision-Based Techniques to Evaluate Effectualness of Micro Suturing by Trainee Neurosurgeons**
Summary: We designed and implemented a vision-based technique for automated evaluation and scoring of the micro-suturing performed by trainee neurosurgeons. This project was done in collaboration with AIIMS, Delhi.

## TEACHING AND EVENTS

- Active volunteer in organizing and managing the **3D Vision Summer School** in 2022 and 2023 organized at IIIT Hyderabad. Designed and conducted tutorial sessions on getting started with 3D Vision (slides ⬀ ).

- Active volunteer in managing the **Summer School on AI** in 2023 organized at IIIT Hyderabad.

- Active volunteer in managing **NCVPRIPG-2019**, which was organized at KLE Technological University.

- Active Volunteer in conducting workshops on Image Processing, Machine Learning, and Computer Vision conducted by CVG. (2019, 2020)

## CERTIFICATIONS AND ACHIEVEMENTS

- Attended a workshop on 3D Computer Vision at IIIT Hyderabad. (2020)

- Attended CVG Winter Workshop on Image Processing, Machine Learning and Neural Networks.

- Completed multiple courses of *Deep Learning Specialization* authorized by deeplearning.ai, offered through Coursera.

- Won multiple state and national level awards in the Abacus and Mental Math Championship. (*National rank: 65*)

## TECHNICAL SKILLS

*Languages*: Python, C, C++
*Framework*: PyTorch
*Tools*: Blender, MeshLab, Git