Siddharth Katageri

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INTERESTS

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

EDUCATION

Indian Institute of Information Technology, Hyderabad, India (IIIT-H) 2021
Masters by Research (MS) in Computer Science and Engineering, GPA: 8.57/10

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

Alvas PU College, Moodbidri, India 2015 - 2017
Percentage: 92%

EXPERIENCE

Center of Excellence in Visual Intelligence, Hubballi - Research Intern Mar 2021 - Aug 2021
Worked on the task of 3D shape decomposition under the guidance of Uma Mudengudi. Developed a novel method for decomposing objects into basic shapes towards improving the performance of various 3D analysis tasks.

Computer Vision and Graphics Laboratory, Hubballi 2019 - 2020
Was an active member of CVG Research Lab working towards solving problems in Computer Vision and 3D processing.

Indian Institute of Technology, Delhi - Project Trainee 2019 - 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

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

PointDCCNet: 3D Object Categorization Network using Point Cloud Decomposition 🔗
Siddharth Katageri, Sameer Kulmi, Ramesh Tabib, Uma Mudengudi
Conference on Computer Vision and Pattern Recognition (CVPR) Workshops, 2021

PROJECT DETAILS

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.

Synergizing Contrastive Learning and Optimal Transport for 3D Point Cloud Domain Adaptation
Summary: We leverage the idea of multimodality and alignment between distributions. We propose a new UDA architecture for point cloud classification that benefits from multimodal contrastive learning to get better class separation in both domains individually. Further, the use of optimal transport aims at learning source and target data distributions jointly to reduce the cross-domain shift.

Attention Based Decomposition Network for 3D Point Cloud Decomposition
Summary: We propose ABD-Net that captures the inherent geometry of a 3D point cloud and represents it using basic shapes namely, plane, sphere, cone and cylinder. We show effectiveness of proposed model by improving on the 3D classification task.

3D Object Categorization Network using Point Cloud Decomposition
Summary: We propose PointDCCNet for 3D object categorization using point cloud decomposition. The decomposition of point clouds provides a geometrical signature of the 3D object used towards modelling a 3D classifier.

Vision-Based Techniques to Evaluate Effectualness of Micro Suturing by Trainee Neurosurgeons
Summary: We design and implement a vision-based technique for automated evaluation and scoring of the micro-suturing performed by trainee neurosurgeons.

PATENT

Patent filing in process with KLE Technological University on "ABD-Net: Attention Based Decomposition", 2021.

TRAINING AND CERTIFICATIONS

- Attended a workshop on **3D Computer Vision at IIIT Hyderabad**. (2020)
- **CVG Winter Workshop** on Image Processing, Machine Learning and Neural Networks. (2019)
- Completed **Neural Networks and Deep Learning** course authorized by deeplearning.ai, offered through Coursera.
- Completed **Improving Deep Neural Networks**: Hyperparameter tuning, Regularization and Optimization course authorized by deeplearning.ai, offered through Coursera.
- Completed **Structuring Machine Learning Projects** course authorized by deeplearning.ai, offered through Coursera.
- Completed **Convolutional Neural Networks** course authorized by deeplearning.ai, offered through Coursera.

TEACHING AND EVENTS

- Active Volunteer in organizing and managing the **3D Vision Summer School** in 2022 and 2023 organized at IIIT Hyderabad.
- 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, Hubballi, Karnataka
- Active Volunteer in conducting workshops on Image Processing, Machine Learning and Computer Vision conducted by CVG. (2019, 2020)

TECHNICAL SKILLS

Tools and Libraries: OpenCV, PyTorch, MeshLab, Git, Blender
Programming Languages: Python, C++, C

PERSONAL DETAILS

Date of birth: 19 July 1999
Languages known: English, Hindi, Marathi, Kannada
Hobbies: Sketching, Cooking
Place: Pune, Maharashtra