

Apoorva Beedu

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- <https://apoorvabeedu.github.io/>

EDUCATION

- **Doctor of Philosophy** Expected June 2024
Georgia Institute of Technology Atlanta, GA
Research Area: Computer Vision, Object Pose Estimation, Object and activity understanding, Self Supervision, Video analysis.
Advisor: Dr. Irfan Essa Co-advisor: Dr. Justin Romberg.
- **Bachelor of Engineering** August 2011-May 2015
PES Institute of technology Bangalore, India
Electrical and Electronics Engineering

RESEARCH PAPERS

- **Beedu, Apoorva**, Karan Samel, and Irfan Essa. "On the Efficacy of Text-Based Input Modalities for Action Anticipation." arXiv preprint arXiv:2401.12972 (2024).
- Choi, Hyeongju, **Apoorva Beedu**, and Irfan Essa. "Multimodal contrastive learning with hard negative sampling for human activity recognition." arXiv preprint arXiv:2309.01262 (2023).
- Choi, Hyeongju, **Apoorva Beedu**, Harish Haresamudram, Irfan Essa. "Multi-Stage Based Feature Fusion of Multi-Modal Data for Human Activity Recognition." arXiv preprint arXiv:2211.04331 (2022).
- **Beedu, Apoorva**, Huda Alamri, and Irfan Essa. "Video based Object 6D Pose Estimation using Transformers." Vision Transformers: Theory and Applications workshop NeurIPS (2022).
- Alamri, Huda and Bilic, Anthony and Hu, Michael and **Beedu, Apoorva** and Essa, Irfan. "End-to-End Multimodal Representation Learning for Video Dialog." Vision Transformers: Theory and Applications workshop NeurIPS (2022).
- Haresamudram, H., **Beedu, A.**, Agrawal, V., Grady, P.L., Essa, I., Hoffman, J. and Plötz, T., 2020, September. Masked reconstruction based self-supervision for human activity recognition. In Proceedings of the 2020 International Symposium on Wearable Computers (pp. 45-49).
- **Beedu, A.**, Ren, Z., Agrawal, V. and Essa, I., 2021. VideoPose: Estimating 6D object pose from videos. arXiv preprint arXiv:2111.10677.

INTERSHIPS

- **Facebook Reality Lab** Summer '21
Research Intern, Oculus Lab Atlanta(remote), USA
Host: Dr. Chengde Wan Dr. Robert Wang
– Developed a model to track a pen, and estimate 6D pose of the pen for Hand-Pen interaction.
- **Microsoft Research** Summer '20
Research Intern Atlanta(remote), USA
Host: Dr. Amol Ambardekar Dr. Harpreet Sawhney
– Developed a model to estimate and refine 6D object poses for large day-to-day objects.
- **NodeIn Robotics** Summer '17 and '18
Robotics Intern Connecticut, USA
Host: Dr. Suresh Kannan
– Worked on creating a map for indoor environment.
– Developed a method to enhance images, and identify cases when feature extractions fail

PROFESSIONAL ACTIVITIES

- Reviewer for BMVC(2021, 2022, 2023), CAI2024, PerDream2023, VTTA2022

TEACHING EXPERIENCE

- **Graduate Teaching Assistant** August 2017 - Present
Course: OMSCS: 6476 Computer Vision Atlanta, USA

SKILLS

- **Languages** C++, python, MATLAB, numpy, scikit-learn, scipy, pandas, matplotlib.
- **Deep Learning Framework** PyTorch, TensorFlow(basic)

PROJECTS

- (2020) Self-supervised learning for human activity recognition from wearables.
- (2017) MBZIRC Competition: challenges involved detecting the right stem valve size, detecting corresponding wrench and rotating the stem for 360°.
- (2017) Traffic Sign Classification using HOG and SVM.
- (2015) Location Based Payload Imaging: PISAT is a student satellite, a project by the Crucible Of Research and Innovation (CORI), a unit of PESIT.

MENTORING

- Kara Bethany Liu
- Jason Sheinkopf
- Zhikang Dong
- Hyeongju John Choi - Work led to a submission Multimodal Contrastive Learning with Hard Negative Sampling for Human Activity Recognition (PerDream@ICCV2023)
- Hrishikesh Kale