SEMINAR ANNOUNCEMENT

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
Faculty of Engineering
Website: https://www.eng.nus.edu.sg/ece/

Area: Signal Analysis & Machine Intelligence

Host: Asst Prof Feng Jiashi

TOPIC	**:**	**Inference Stage Optimization for Cross-scenario 3D Human Pose Estimation**
SPEAKER	**:**	**Mr Zhang Jianfeng** **Graduate student, ECE Dept, NUS**
DATE	**:**	**3 July 2020, Friday**
TIME	**:**	**4pm to 4.40pm**
WEBINAR	**:**	**https://us02web.zoom.us/j/497447113?pwd=b1V4ZFJGaEZuTTJjZUVlekJCRkhpQT09** **Meeting ID: 497 447 113** **Password: 027731**

ABSTRACT

Existing 3D human pose estimation models suffer performance drop when applying to new scenarios with unseen poses due to their limited generalizability. In this work, we propose a novel framework, Inference Stage Optimization (ISO), for improving the generalizability of 3D pose models when source and target data come from different pose distributions. Our main insight is that the target data, even though not labeled, carry valuable priors about their underlying distribution. To exploit such information, the proposed ISO performs geometry-aware self-supervised learning (SSL) on each single target instance and updates the 3D pose model before making prediction. In this way, the model can mine distributional knowledge about the target scenario and quickly adapt to it with enhanced generalization performance. In addition, to handle sequential target data, we propose an online mode for implementing our ISO framework via streaming the SSL, which substantially enhances its effectiveness. We systematically analyze why and how our ISO framework works on diverse benchmarks under cross-scenario setup.

BIOGRAPHY

Zhang Jianfeng is a PhD student at National University of Singapore (NUS), advised by Asst Prof Feng Jiashi. His research interest covers deep learning and computer vision. Currently he is doing projects about 3D human pose estimation.