

TETAM PhD Seminars – 01.03.2018, 10:00-11:00
TETAM Roof Conference Hall

Title: Sign Language Recognition with Multi Task Sequence Alignment (by **Ahmet Alp Kindirođlu, 10:00-10:30**)

Abstract

Compared to the problem of action recognition where the videos show a large amount of variety, sign language gestures adhere to a given protocol of frontal poses, where different signs are differentiated through varying hand shapes, upper body joint positions and trajectories. The timing of the gestures on the other hand is more critical. In this study, we seek to improve the performance of existing sign language recognition classification methods through the incorporation of temporal registration prior to classification. To align sign language gestures using the movement-hold model proposed by Lidell et. al.(Lidell 1980), we use hand speed, hand shape and body coordinate features with dynamic time warping, canonical time warping and generalized canonical time warping approaches to perform alignment and key frame selection. The proposed alignment method is further improved through a task selection scheme performed with spectral clustering. The aligned gestures are then used with both non-temporal classifiers like Random decision forests and a considerable improvement is observed in user independent isolated sign language recognition performance.

Bio: Ahmet Alp Kindirođlu graduated from Sabancı University Department of Computer Science and Engineering in 2008. He graduated from Bođaziđi University in 2011 with a master's degree in Computer Engineering. Since 2011, he has been continuing his education as a doctoral candidate with the thesis topic "Independent Sign Language Recognition from the User", under the consultancy of Lale Akarun in the same department. He worked as a research assistant at Bođaziđi University Computer Engineering Department between the years of 2011-2017 and is currently working as a scholarship / researcher at DPT / TAM Project. His main research areas of interest include computer vision, transfer of learning, sequence alignment, sign language recognition, personality analysis and deep neural networks. He has completed and is still a part of Tübitak and Santez on these topics.

Title: Privacy Auctioning for Online Social Networks (by **Onuralp Ulusoy, 10:30-11:00**)

Abstract

Online Social Networks enable their users to share content with their connections. Shared contents over OSNs raise privacy concerns, since they tend to contain personal information of users. More importantly, a single content, e.g, a photo of a group of people, can potentially contain private information of multiple users, which become available without their consent. Ensuring that all relevant users' privacy requirements are met is important but difficult since the requirements can easily be conflicting. Hence, mechanisms to resolve privacy disputes are needed. Accordingly, this paper proposes an agent-based collaborative privacy management model, where agents represent users and manage their privacy requirements. When an image is about to be shared, the relevant agents enter an auction and bid on behalf of their users about how private the considered image is. The bids are processed with a modified version of Clarke-Tax mechanism that achieves fair handling of privacy settings and taxes the agents whose privacy settings are chosen. We evaluate our approach over multiagent simulations and show that it produces privacy policies efficiently and more accurately than existing approaches

Bio: Onuralp Ulusoy is pursuing his Ph.D. degree in Computer Engineering at Bođaziđi University. He got his B.Sc. degree in Computer Engineering from Trakya University and M.Sc. degree in Computer Engineering from İstanbul Technical University. He also worked as a software engineer in the private sector about four years. His research interests include Artificial Intelligence, Privacy, Web Semantics and Robotics.