



Boğaziçi Üniversitesi



Teleiletişim ve Enformatik Teknolojileri Uygulama ve Araştırma Merkezi (TETAM)

Doktora Öğrencileri Seminerleri

21.05.2021 / 10:00-11:30 Yer: Zoom Webinar

Title: Deep Domain Adaptation for Sign Language Recognition

Ahmet Alp Kındıroğlu

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. In this study, we seek to improve the performance of existing sign language recognition classification methods through the incorporation of adversarial deep domain adaptation methods.

Bio: Ahmet Alp Kındıroğlu graduated from Sabancı University Department of Computer Science and Engineering in 2008. He graduated from Boğaziçi 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 Boğaziçi 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 include computer vision, transfer of learning, sequence alignment, sign language recognition, image segmentation and deep neural networks. He has completed and is still a part of Tübitak and Santez projects on these topics.



Title: Beware of the Uncertainty in Automated Privacy Decisions

Gönül Aycı

Abstract: In this talk, we present our latest submitted paper, namely Beware of the Uncertainty in Automated Privacy Decisions. We will propose a personal privacy assistant for online social network users. This personal assistant can classify content based on its privacy value. It is capable of quantifying predictive uncertainty.

Bio: Gönül Aycı is a Ph.D. candidate in the Computer Engineering department at Boğaziçi University under the supervision of Assoc. Dr. Arzucan Özgür and her co-advisor is Prof. Dr. Pınar Yolum from Utrecht University. She received her M.S. in Computer Science from Özyeğin University and a B.S. in Mathematics from Marmara University. Before joining Bogazici University, she was a research assistant in the department of CS at Özyeğin University. Her master thesis subject was Fusion of Subjective Opinions through Behavior Estimation. Her current research interest includes privacy and uncertainty in online social networks.



Title: DeepEdge: A Deep Reinforcement Learning based Task Orchestrator for Edge Computing

Barış Yamansavaşçılar

Abstract: The improvements in the edge computing technology pave the road for diversified applications that demand real-time interaction. However, due to the mobility of the end-users and the dynamic edge environment, it becomes challenging to handle the task offloading with high performance. Moreover, since each application in mobile devices has different characteristics, a task orchestrator must be adaptive and have the ability to learn the dynamics of the environment. For this purpose, we develop a Deep Reinforcement Learning based task orchestrator, DeepEdge, which learns to meet different task requirements without needing human interaction even under the heavily loaded stochastic network conditions in terms of mobile users and applications. Given the dynamic offloading requests and time-varying communication conditions, we successfully model the problem as a Markov process and then apply the Double Deep Q-Network (DDQN) algorithm to implement DeepEdge. To evaluate the robustness of DeepEdge, we experiment with four different applications including image rendering, infotainment, pervasive health, and augmented reality in the network under various loads. Furthermore, we compare the performance of our agent with the four different task offloading approaches in the literature. Our results show that DeepEdge outperforms its competitors in terms of the percentage of satisfactorily completed tasks.

Bio: Barış Yamansavaşçılar received his BS degree in Computer Engineering from Yıldız Technical University, Istanbul, in 2015. He received his MS degree in Computer Engineering from Bogazici University, Istanbul, in 2019. Currently, he is a PhD student and a research assistant in Computer Engineering Department at Bogazici University under the guidance of Prof. Cem Ersoy. His research interests include Edge Computing, Deep Reinforcement Learning, Mobile Networks, Software-Defined Networking, and Machine Learning.

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