Selahaddin HONI / 호니

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ABOUT

I am affiliated with KAIST as a visiting researcher in the Vision and Learning Laboratory, supervised by Professor Seunghoon Hong. I am passionate about computer vision and machine learning, and my goal is to pursue a graduate degree at KAIST. Additionally, I have experience in metric learning and object tracking in long-term videos. I was recently engaged in research on few-shot learning, which allows models to learn new tasks with a tiny amount of data. I am also open to exploring other topics in this field.

EDUCATION

KAIST — Korea Advanced Institute of Science and Technology Daejeon, Korea
Master • Exchange Student Spring, 2022 ~ Fall, 2022
Completed Courses: Deep Learning • Computer Vision • Digital Image Processing • Technical Writing

Istanbul Technical University Istanbul, Turkey
Master • Telecommunications Engineering [Withdrawn for KAIST Applications] Spring, 2022 ~ Fall, 2022

Istanbul Technical University Istanbul, Turkey
Bachelor • Electronics & Communications Engineering • GPA: 3.54 / 4.00 (Extra credits in Grad-School) Spring, 2017 ~ Fall, 2021
Advisor: Prof. Bilge Gunsel **Thesis:** Long-term person tracking via deep learning

EXPERIENCE

Visiting Student Researcher in KAIST Daejeon, Korea
Vision and Learning Laboratory July, 2023 ~ November, 2023
Visual Token Matching (VTM) is a general-purpose few-shot learner for arbitrary dense prediction tasks, as proposed by a lab mate in an outstanding paper in ICLR'23. However, VTM cannot handle temporal information, which hinders its performance in video domains. In my internship, I enhanced VTM's generalizability by incorporating time attention into its framework. Empirical results show that the method surpasses the baseline VTM when a very limited support set is available. Specifically, the method achieves 8.89% and 4.37% higher accuracy than the baseline in 1-shot and 2-shot scenarios, respectively, on the DAVIS2016 video segmentation dataset.

Undergraduate Researcher in Istanbul Technical University Istanbul, Turkey
Multimedia Signal Processing and Pattern Recognition Research Group August, 2021 ~ March, 2022
We created a novel inference architecture that leverages re-identification features for data association in visual object tracking for long-term videos. Our tracker provisionally matched the state-of-the-art performance within the scope of person tracking in the Visual Object Tracking – Long Term 2021 benchmark.

Intern in TUBITAK BILGEM (Sci. & Tech. Research Council of Turkey) Kocaeli, Turkey
Communication & Signal Processing Lab. July ~ September, 2020
Our team created an end-to-end communication channel for a control model using GNU Radio. We built physical, data link, network, and transport layers and applied basic modulations on LimeSDR hardware.

Intern in HAVELSAN Inc. Ankara, Turkey
Big Data & Artificial Intelligence Section May ~ June, 2020
I led a visual gesture recognition project, created a custom dataset and a real-time app, and won an innovation award.

Intern in BAYKAR Technologies Istanbul, Turkey
Control Simulation & Embedded Software Dept. June ~ September, 2019
Our team created a web platform for converting embedded C code to C# code.

TEACHING EXPERIENCE

Teaching Assistant Istanbul Technical University, 2021
Machine Learning for Signal Processing • EHB328 • Fall 2021

HONORS & AWARDS

2021 • National Academic Personnel and Graduate Education Exam (Quantitative) • Ranked in the top 1%
2016 • National Higher Education Examination Undergraduate Placement Exam • Ranked in the top 0.3%