HALIL ÇAĞRI BILGI

Delft, Netherlands

SUMMARY

CONTACT h.c.bilgi@tudelft.nl
HOMEPAGE hcagri.github.io

PhD candidate at TU Delft specializing in graph machine learning, focusing on enhancing GNN models' expressivity, particularly for multigraphs such as financial transaction networks. I am also passionate about temporal GNNs, knowledge representation, and generative models, with over three years of combined research and engineering experience in academic and industry settings.

Coding skills with Python and DL frameworks such as PyTorch and TensorFlow, experience with git and issue tracking systems.

Languages: Turkish (native), English (fluent), German (A2)

CliftonStrengths: Learner | Input | Intellection | Adaptability | Consistency

WORK EXPERIENCE

Researcher
Delft University of Technology - Delft, Netherlands **Jun 2024 - Current**

- PhD Candidate at Data-Intensive Applications research group.

Research Assistant
Middle East Technical University (METU) - Ankara, Turkey **Nov 2022 - May 2024**

- Thesis study on exploitation of graph neural networks for multiple object tracking. Aiming to increase the robustness of tracking on occlusions and failure cases by formulating the problem as a link prediction in a graph domain by iteratively merging shorter tracklets to longer ones under the supervision of Prof. Aydın Alatan.

Research Engineer
METU Center for Image Analysis - Ankara, Turkey **Sep 2021 - Oct 2023**

- Developed a graph-based deep learning method for merging tracklets of a target with fragmented trajectories in Multi Object tracking setting. Also re-implemented or adapted the state-of-the-art methods to a given problem. Also conducted experiments utilizing Optimal Transport theory on merging tracklets.
- Participated in an international project funded by Telespazio to estimate the positions and orbits of space objects utilizing images. Designed and implemented a comprehensive pipeline encompassing orbit determination, propagation, and refinement techniques.

Software Engineer
MILSOFT - Ankara, Turkey **Apr 2021 - July 2021**

- Developed object detection algorithms tailored to SAR (Synthetic Aperture Radar) imagery, utilizing OpenCV and PyTorch. Successfully adapted and implemented existing methods from the literature to address specific challenges in the SAR domain

EDUCATION

MSc, Electrical and Electronics Engineering
Middle East Technical University (METU) - Ankara, Turkey **Sep 2021 - Apr 2024**

- Specialization in signal processing and computer vision with coursework on linear algebra, stochastic signal processing, pattern recognition, machine vision, deep learning, advanced deep learning, and deep generative models.

BSc, Electrical and Electronics Engineering
Middle East Technical University (METU) - Ankara, Turkey **Feb 2017 - July 2021**

- Senior year specialization in Signal Processing and Machine Learning.

PUBLICATIONS

- H. Çağrı Bilgi, A. Aydın Alatan, “Bi-Directional Tracklet Embedding for Multi-Object Tracking”, accepted to ICIP, Feb 2024.