Sarper Yurtseven

Istanbul, Turkey
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RESEARCH INTERESTS

Dynamical Systems, Geometry and Topology, Deep Learning

EDUCATION

Yildiz Technical Univeristy, Istanbul, Turkey 2020 — 2024
Bachelor of Science in **Mathematics** Cumulative GPA: 3.13/4
Thesis Title: Hopf Bifurcation and Stability Analysis for Continuous Neural Network Model with Distributed Delay, link

Taksim Koleji (High School), Istanbul, Turkey 2015 — 2019
Science and Mathematics Cumulative GPA: 95/100
Notable Events and Activities: **Top student** of the school, Chess Club (Ranked **1st** (2019) and **2nd** (2018) at school tournament), Football team player

ACADEMIC EXPERIENCE

Georgia Institute of Technology Remote
Undergraduate Researcher @Rehg Lab advised by PhD cand. Ozgur Kara Summer 2023

- Conducted research on **image editing** through interpolating on latent space to change non-linear attributes (eg. azimuth, altitude, brightness) and **novel view synthesis** with **diffusion models.**
- A paper published in **ICVSS 2023** workshop

Princeton University Remote
Undergraduate Researcher @Astromusers advised by Asst. Prof. Tansu Daylan 2022 — 2023

- Conducted research on how to enhance photometric legacy over space telescopes using unsupervised deep learning techniques (**VAEs and its derivations**). Particularly, worked on **PSF modeling** and **exoplanet detection** using JWST's coronagraphic data.
- Used JWST's pipeline, Fourier and Wavelet transform as one of the pre-processing techniques.
- Built and designed a pipeline for astronomical research using deep learning. You can visit **AI-Boosted-Coronagraphy**

PROFESSIONAL EXPERIENCE

Data Analysis Intern Remote
Jan 2022 — March 2022

- Engaged in analyzing data from smart homes, with a focus on uncovering significant correlations among users, devices, and their interactions. My analytical approach involved employing **data analysis** tools, **visualization techniques** and employing **unsupervised techniques** such as **K-means clustering** and **principal component analysis**.

PUBLICATIONS & SUBMISSIONS

Journal paper

- **Yurtseven S.**, Kurtkaya B., Daylan T., AI-Boosted Coronagraphing Imaging with JWST (**In-Progress)**

Workshops & Poster Submissions

- Kara O., **Yurtseven S.**, Yesiltepe H., Stojanov S., Rehg J, Analysis of Controllability and Fairness in Diffusion Models, **ICVSS**, 2023

VOLUNTEER WORK

inzva Istanbul, Turkey
AI Team Member 2022 — Present

- inzva gives me the opportunity to **communicate** and **disseminate science** to people who are from various areas.
- I **lead** the development of a new **deep learning lecture series**, crafting a cutting-edge syllabus that incorporates **state-of-the-art** techniques and models.

- We organized and coordinated **Google ML Bootcamp 2023 Turkey** and **Google ML Bootcamp 2022 Turkey** as inzva AI Team. My role involves offering guidance and mentorship to ensure the successful graduation of participants for each module, with each module spanning a duration of **6 months**.
- I instruct on MLPs and their structure, covering fundamental concepts of neural networks and elucidating the mathematical principles that underlie their functioning. **content link**

Matematik Dunyasi Archive Team Istanbul, Turkey
Writer and Editor 2021 — Present

- Matematik Dunyasi, a journal of popular mathematics, is under the ownership of the **Turkish Mathematical Society**. The archive team is currently transcribing the older issues (1991-2001) into LaTeX format to make them accessible on the website, allowing everyone to read them. For more information, you can visit **matematikdunyasi.com**.

WORKSHOPS/INVITED TALKS

- **United Nations Development Programme SGD AI LAB** 2023, Remote
- **Get Your Hands Dirt in AI** 2022, Istanbul, Turkey
- **Morethan101 Workshops** 2022, Istanbul, Turkey