Sarper Yurtseven

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Education

3.2/4	**Bsc in Mathematics**, *Yildiz Technical University* | Istanbul, Turkey	*2020-2024*

Bachelor Thesis: Hopf Bifurcation and Stability analysis for continuous neural network model with distributed delay advised by **Prof. Dr. Canan Celik** (to be published soon.)
Social Activities: University Football team player, **TEMA Foundation** student volunteer
Notable Courses: Advance Linear Algebra | Group Theory | System Analysis | Topology | Partial Differential Equations | Linear Programming | Coding Theory | Differential Geometry | Functional Analysis | Numerical Methods | Complex Analysis

19/20	**High School**, *Bogazici Okullari* | Istanbul, Turkey	*2015-2019*

Notable events: Top student of the school
Social Activities: Chess Club (Ranked **1st** (2019) and **2nd** (2018) at school tournament), Football team player

Research Experience

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

Princeton University, *Undergraduate Researcher* @Astromusers advised by Asst. Prof. Tansu Daylan — *2022 - 2023, Remote*
- 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**
- **Manuscript** in preparation to be published.

Yildiz Technical University, *Undergraduate Researcher advised by Assoc. Prof. Ozgur Yildirim* — *2022 Summer, Istanbul*
- I conducted research centered around utilizing neural networks to solve partial differential equations (PDEs), with a specific focus on investigating the **Deep Ritz** and **Deep Galerkin** methods.

Professional Experience

Assia, Inc, *Data Analyst Intern* — *Jan 2022 - Mar 2022, Remote*
- 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**.

Volunteer Work

inzva — *July 2022 - Present*
AI Program Specialist
- 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 program, with each program 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 — *June 2021 - Present*
Writer and Editor
- 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**.

YTU SKYLAB — *Feb 2022 - Sep 2022*
AI Team Lead
- Leading the AI team at YTU SKYLAB, we offered **educational content** and hosted **workshops** for students interested in learning about the field. We also organized **study groups** where we discussed papers from top-notch conferences and relevant textbooks.

Workshops/Invited Talks

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