



Efe Tarhan

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📍 Work Permit B

Education

École Polytechnique Fédérale de Lausanne (EPFL)

MSc in Communication Systems

Lausanne, Switzerland

Sep 2024 – Present

- **GPA: 5.8/6.0**
- Granted with **Excellence Scholarship**
- Specialization in **Signal & Image Processing**

Ihsan Dogramaci Bilkent University

BSc in Electrical and Electronics Engineering

Ankara, Turkey

Sep 2020 – Jun 2024

- **3.95/4.0 GPA**
- Ranked **2nd** among **180 people** in 2020 cohort.
- Specialization in **Data Science**

Experience

Graduate Research Assistant

Visual Intelligence and Learning Lab 🔗

Lausanne, Switzerland

Jul 2025 – Present

- Working on multimodal foundational models with [Kunal Pratap Singh](#) in VILAB directed by [Prof. Amir Zamir](#).

Graduate Research Assistant

Image and Visual Representation Lab 🔗

Lausanne, Switzerland

Jan 2025 – Jun 2025

- Worked on relighting and editing 3D scene representations (NeRFs and Gaussian Splats) in IVRL directed by [Prof. Sabine Süsstrunk](#). Successfully delivered a **research project** on the subject.

Graduate Research Assistant

Biomedical Imaging Group 🔗

Lausanne, Switzerland

Sep 2024 – Jul 2025

- Worked on an efficient multiresolution algorithm for ptychography imaging in the Biomedical Imaging Group, under the supervision of [Prof. Michaël Unser](#). Successfully delivered a **research project** on the subject.

Undergraduate Research Assistant

Bilkent University

Ankara, Turkey

Mar 2023 – Sep 2024

- Conducted research on intelligent reflecting surfaces and visible light positioning systems under the supervision of [Prof. Sinan Gezici](#). Published the journal article **IRS-Aided Visible Light Positioning with a Single LED Transmitter** in *Elsevier Digital Signal Processing*.

Signal Processing Engineer

NANOTAM 🔗

Ankara, Turkey

Apr 2023 – May 2024

- Worked in the research facility directed by [Prof. Ekmel Özbay](#), focusing on Optical Time Domain Reflectometry (OTDR). Developed a real-time, time-efficient processing pipeline for OTDR data using statistical signal processing techniques in MATLAB, Python, and C++.

Antenna Engineer Intern

ASELSAN 🔗

Ankara, Turkey

Jul 2023 – Aug 2023

- Worked on physical design and material effects on tightly coupled phased array absorbers. Designed an

Archimedean spiral antenna using Ansys HFSS software under the supervision of [Dr. Mustafa Kuloglu](#).

Computer Vision Intern

Ankara, Turkey

[UMRAM](#) [✉](#)

June 2022 – July 2022

- Worked in the research group of [Prof. Tolga Çukur](#), on the multilabel-multiclass disease classification task of chest tomography samples. Developed deep learning based solutions using classical backbones.

Publications

IRS Aided Visible Light Positioning with a Single LED Transmitter

Jan 2025

Efe Tarhan, Furkan Kokdogan, Sinan Gezici

[Elsevier Digital Signal Processing Journal](#)

[10.1016/j.dsp.2024.104799](#) [✉](#)

Projects

A Multiresolution Framework for Ptychography

Sep 2024 – Jun 2025

[Github](#) [✉](#)

- Multiresolution Optimization, Ptychography, B-Splines, Phase Retrieval

From Pixels to Wireframes: 3D Reconstruction via CLIP-Based Sketch Abstraction

Apr 2025 – Jun 2025

[Website](#) [✉](#)

- Gaussian Splatting, Bezier Curves, Abstract Representation, CLIP

DetoxText: Text Detoxification Using Finetuned Encoder-Decoder Models

Apr 2025 – Jun 2025

[Github](#) [✉](#)

- Hate Speech Removal, Supervised Finetuning, BERT, GWEN

Large-Scale 3D Scene Relighting using Pre-Trained Diffusion Models

Mar 2025 – Jun 2025

[Github](#) [✉](#)

- NeRF, Gaussian Splatting, Diffusion Models, Scene Relighting

Road Segmentation from Aerial Images

Nov 2024 – Jan 2025

[Github](#) [✉](#)

- Semantic Segmentation, UNet, PSPNet, SegFormer

Wireless Train Signalization

Sep 2023 – Jun 2024

[Github](#) [✉](#)

- Industrial Design Project, Embedded Systems, RFID, WiFi, GPS, Cloud Database, GUI Design.

ML-Enhanced VLP in IRS-Assisted Indoor Environments with a Single LED Transmitter

Sep 2023 – Jan 2024

[Github](#) [✉](#)

- Visible Light Positioning, Intelligent Reflective Surfaces, Illumination Modelling, KNN.

Achievements & Awards

- École Polytechnique Fédérale de Lausanne **Excellence Scholarship**.
- Bilkent University Electrical and Electronics Engineering **Academical Excellence Award**.
- TÜBİTAK 2209-B Industry Oriented Projects Support Fund.
- 2247 - C STAR-Intern Researcher Scholarship.
- İhsan Doğramacı Bilkent University **Full Comprehensive Scholarship**.
- Ranked **441st among 2 million students** in university entrance exam (YKS).

Skills

Coding Languages: Python, MATLAB, C/C++, R, MySQL

Technologies: PyTorch, Kubernetes, Docker, Git, TensorFlow, Pandas, Google Firebase, Qt

Languages: English - Full Working Proficiency, French - Intermediate Proficiency