Bahri Batuhan Bilecen

18.02.2000
EEE BSc grad, incoming CS PhD student
bbatuhanbilecen@gmail.com

scholar page (4GUUoH4AAAAJ) **G**
linkedin.com/in/bbatuhan **in**
github.com/three-bee **○**

Education

ETH Zürich & Max Planck Institute
Incoming PhD in Computer Science

Switzerland & Germany
September 2025

Bilkent University
MSc in Computer Engineering

Turkey
2022 - 2025

Middle East Technical University (METU)
BSc in Electrical and Electronics Engineering

Turkey
2018 - 2022

Experience

Graduate Research Assistant
VLG @ ETH Zürich

Switzerland
September 2025

- Working on interpretable and controllable generative video models, under the supervision of Prof. Siyu Tang, Prof. Bernt Schiele, and Dr. Jan Eric Lenssen.

Graduate Researcher
DLR @ Bilkent

Turkey
September 2022 - Present

- Focused on 2D & 3D generative networks, under the supervision of Prof. Aysegul Dundar.
- Mentored undergraduate and graduate students. Voluntarily reviewed manuscripts submitted to respectable conferences and journals (*IEEE TIP, ECCV, CVPR, ICCV*).

Research Engineer
ASELSAN Research

Turkey
November 2021 - January 2025

- Focused on inverse problems in image restoration, compressed sensing, and neural network optimization under the supervision of Dr. Alper Gungor and Dr. Mustafa Ayazoglu.
- Took part in the national defense industry, volunteered in mobility projects, and contributed to the insider knowledge of the company. *ASELSAN Inc.* is among the top 50 defense companies as of 2025.

Undergraduate Researcher
METU Center for Image Analysis (OGAM)

Turkey
July 2021 - June 2022

- Conducted comparative performance analyses on frame-based and event-based optical flow algorithms, under the supervision of Prof. Aydın Alatan.
- Performed controlled hands-on experiments on a DAVIS event camera, testing its dynamic range and latency.

Computer Vision Engineer
STM Defence

Turkey
August 2020 - April 2021

- Worked on real-time background subtraction, video dehazing, and object-tracking solutions for unmanned aerial vehicles (UAVs).
- Refactored some C++ code for real-time optimization, which is now used in the company's UAV products.

Honors & Scholarships

- Max Planck ETH Center for Learning Systems doctoral fellow (2025-2028).
- Given merit scholarships Bilkent University (2022-2025), METU Development Foundation (2018-2022), and The Ministry of National Education of Türkiye (2010-2018).

Selected Publications & Preprints

- **B. Batuhan Bilecen**, Yiğit Yalın, Ning Yu, Ayşegül Dündar. *"Reference-Based 3D-Aware Image Editing with Triplanes"*. CVPR 2025. (⌂ **project page**)

- **B. Batuhan Bilecen**, **A. Berke Gökmen**, Ayşegül Dündar. *"Dual Encoder GAN Inversion for High-Fidelity 3D Head Reconstruction from Single Images"*, NeurIPS 2024. (⌂ **project page**)

- **B. Batuhan Bilecen**, A. Berke Gökmen, Furkan Guzelant, Ayşegül Dündar. *"Identity Preserving 3D Head Stylization with Multiview Score Distillation"*. In submission. (⌂ **project page**)

- Alper Güngör, **B. Batuhan Bilecen**, Tolga Çukur. *"Bayesian Conditioned Diffusion Models for Inverse Problems"*. In submission.

- Ahmet Burak Yıldırım, Hamza Pehlivan, **B. Batuhan Bilecen**, Ayşegül Dündar. *"Diverse Inpainting and Editing with GAN Inversion"*, ICCV, 2023. (⌂ **project page**)

- Alperen Kalay, **B. Batuhan Bilecen**, Mustafa Ayazoğlu. *"Towards Clip-Free Quantized Super-Resolution Networks: How to Tame Representative Images"*, BMVC, 2023.

- **B. Batuhan Bilecen** and Mustafa Ayazoğlu. *"Bicubic++: Slim, Slimmer, Slimmest - Designing an Industry-Grade Super-Resolution Network"*, NTIRE Workshop @ CVPR, 2023. **(Challenge 1st place)** (⌂ **project page**)

- Mustafa Ayazoğlu and **B. Batuhan Bilecen**. *"XCAT - Lightweight Quantized Single Image Super-Resolution Using Heterogeneous Group Convolutions and Cross Concatenation"*, AIM Workshop @ ECCV, 2022.

- **B. Batuhan Bilecen**, Alparslan Fişne, Mustafa Ayazoğlu. *"Efficient Multi-Purpose Cross-Attention Based Image Alignment Block for Edge Devices"*, Embedded Vision Workshop @ CVPR, 2022.

Projects

- **ALKAN WASP & SAKA** *March 2020 - September 2021*
  - Built custom-frame and autonomous quad-copters with ALKAN UAV Team, named Wasp and Saka, as finalists of 5th and 6th TUBITAK *(The Scientific and Technological Research Council of Türkiye)* International Unmanned Aerial Vehicle Competitions, respectively. The competition was held under TEKNOFEST.
  - Learned the basics of *ArduPilot, MAVLink, DroneKit, ROS, and Gazebo*. Led the team with software setups and prepared tutorials. Modified ArduPilot C++ source code to add our custom flight modes.

- **University Departmental Projects** *2019 - 2025*
  - **Advanced Signal Processing & Data Science:** Investigated SVD and applications to classical and deep priors in inverse problems in image restoration. 📄 (**doc link**)
  - **Neural Networks:** Derived the backpropagation equations for MLP and RNN, and implemented from scratch in Python. (⌂ **project page**)
  - **Computer Architecture:** Designed a fully custom 16-bit instruction set architecture and a suitable multi-cycle CPU with *Verilog*. (⌂ **project page**)
  - **Microprocessors:** Designed a frequency-based motor controller with ARM Cortex M4. Wrote the code in *ARM Assembly*, using the Thumb 2 instruction set. (⌂ **project page**)
  - **Logic Design:** Designed a point-of-sale device using Cyclone V FPGA. Utilized *Verilog* and wrote a VGA protocol handler from scratch. (⌂ **project page**)

Skills & Interests

- **Languages:** Turkish (Native), English (TOEFL iBT: 105/120).
- **Hobbies:** Avid classical guitar player, currently learning Gran Vals by Tárrega. Interested in the history of architecture and mobile photography. Enjoys reading novels.