Berker Demirel

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EDUCATION

Institute of Science and Technology Austria — Vienna, Austria
PhD Candidate in Computer Science — Sep 2023 - Current

Sabanci University — Istanbul, Turkey
Masters in Computer Science; GPA: 3.91 — Sep 2021 - June 2023

Sabanci University — Istanbul, Turkey
BS Computer Science and Engineering, BA Economics (DM) and Mathematics (Minor); GPA: 3.84 — Sep 2015 - Jun 2021

SKILLS SUMMARY

- **Languages:** Python, C++, C, Unix scripting
- **Tools:** PyTorch, git, OpenMP, CUDA, CPLEX

SELECTED PUBLICATIONS

- Berker Demirel, Marco Fumero, Theofanis Karaletsos and Francesco Locatello, **MorphGen: Controllable and Morphologically Plausible Generative Cell-Imaging**, arXiv preprint arXiv:2510.01298, 2025.
- Berker Demirel, Marco Fumero and Francesco Locatello, **Out-of-Distribution Detection with Relative Angles**, *Advances in Neural Information Processing Systems* 38 (2025).
- Berker Demirel, Lingjing Kong, Kun Zhang, Theofanis Karaletsos, Celestine Mendler-Dünner and Francesco Locatello, **Adjusting Pretrained Backbones for Performativity**, arXiv preprint arXiv:2410.04499, 2024.
- Berker Demirel and Huseyin Ozkan, **Decompl: Decompositional learning with attention pooling for group activity recognition from a single volleyball image**, in 2024 IEEE International Conference on Image Processing (ICIP). IEEE.
- Berker Demirel, Erchan Aptoula and Huseyin Ozkan, **ADRMX: Additive Disentanglement of Domain Features with Remix Loss**, arXiv preprint arXiv:2308.06624, 2023.

RESEARCH EXPERIENCE

ICHEC (Irish Centre for High End Computing) — Dublin, Ireland
Research Intern - Prof. Buket Benek Gursoy — Jun 2020 - Aug 2020

- Participated in the project "GPU Acceleration of Breadth-First Search algorithm in applications of Social Networks" for two months.
- Proposed 7 different Direction Optimized BFS algorithms for CUDA and created a benchmark.

Erasmus University Rotterdam — Rotterdam, Netherlands
Research Intern - Prof. Ilker Birbil — Jun 2019 - Aug 2019

- Implemented Policy-Gradient based and Value based Reinforcement Learning Algorithms to solve Graph Coloring Problem
- Prepared a technical report about proposed algorithms and presented the study to the supervisor

TEACHING EXPERIENCE

Instute of Science and Technology Austria — Klosterneuburg, Austria
Teaching Assistant — Sep 2024 - Current

- **Course:** Modern Machine Learning
- Holding weekly recitation hours
- Preparing and grading homeworks.

Sabanci University — Istanbul, Turkey
Teaching Assistant — Sep 2021 - 2023

- **Courses:** Machine Learning, Introduction to Computing, Advanced Computing, and Data Structures
- Held weekly recitation sessions and office hours.
- Produced supplementary lecture materials, prepared and graded programming homeworks.
- As a coordinating TA, handled all the announcements to the class of 200+ students and worked closely with other assistants to help them prepare and grade homeworks.

Sabanci University — Istanbul, Turkey
Moderator — Sep 2016 - Jan 2017

- **Courses:** Calculus 1/2 (MATH 101/2), Natural Sciences 1/2 (NS 101/2), Linear Algebra (MATH201)
- Prepared content for exam preparation and general review, 6 hours per week.
- Conducted weekly study sessions to audiences up to 80 students.

Honors and Awards

- Ranked 1st among batch of 20 students in the Department of Economics at Sabanci University.

- Ranked 5th among batch of 90 students in the Department of Computer Science & Engineering at Sabanci University.

- Dean's High Honor List, 2015-2021.

- Honor scholarship for 5 years, awarded for ranking 1878th out of approximately 2 million people in a nationwide university admission exam.

Community & Service

- **Reviewing:** NeurIPS, UniReps, CauScien