

# Oğuz Kaan Yüksel

Ph.D. Candidate

Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland

[okyksl.github.io](https://okyksl.github.io) 

Google Scholar 

## Education

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### École Polytechnique Fédérale de Lausanne (EPFL)

Lausanne

*Ph.D. student in Computer Science, Advisor: Prof. Nicolas Flammarion*

2022 - 2027 (expected)

*Masters in Data Science and Mathematics (minor); GPA: 5.79/6*

2020 - 2022

### Boğaziçi University

İstanbul

*Bachelor of Computer Engineering and Mathematics (double major); GPA: 3.85/4 (rank: 1<sup>st</sup>)*

2015 - 2020

## Publications

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(\* - equal contribution)

### Preprints

#### 1. Generalization Bounds for Autoregressive Processes and In-Context Learning

Oğuz Kaan Yüksel, Nicolas Flammarion

*Preprint under review at AISTATS 2026.*

#### 2. Incremental Learning of Sparse Attention Patterns in Transformers

Oğuz Kaan Yüksel, Rodrigo Alvarez Lucendo, Nicolas Flammarion

*Preprint under review at ICLR 2026.*

### Conference

#### 1. On the Sample Complexity of Next-Token Prediction

Oğuz Kaan Yüksel, Nicolas Flammarion

*Artificial Intelligence and Statistics (AISTATS) 2025.*

#### 2. Long-Context Linear System Identification

Oğuz Kaan Yüksel, Mathieu Even, Nicolas Flammarion

*International Conference on Learning Representations (ICLR) 2025.*

#### 3. First-order ANIL provably learns representations despite overparametrisation

Oğuz Kaan Yüksel, Etienne Boursier, Nicolas Flammarion

*International Conference on Learning Representations (ICLR), 2024.*

#### 4. Semantic Perturbations With Normalizing Flows for Improved Generalization

Oğuz Kaan Yüksel, Sebastian Stich, Martin Jaggi, Tatjana Chavdarova

*International Conference on Computer Vision (ICCV), 2021.*

#### 5. LatentCLR: A Contrastive Learning Approach for Unsupervised Discovery of Interpretable Directions

Oğuz Kaan Yüksel\*, Enis Simsar\*, Ezgi Gülperi Er, Pınar Yanardağ

*International Conference on Computer Vision (ICCV), 2021.*

#### 6. Adversarial Training with Orthogonal Regularization

Oğuz Kaan Yüksel, İnci Meliha Baytaş

*28th Signal Processing and Communications Applications Conference (SIU), 2020.*

## Research & Work Experience

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### Data Friendly Space

*NLP Engineer Intern*

*Jul 2021 - Aug 2021*

*NLP Engineer (part-time)*

*Sep 2021 - Jan 2022*

- Developed text classification solutions for heterogeneous, hierarchical multi-label classification problem.
- Used MLFlow to track experiments and deploy models.
- Implemented online testing environment and conducted user experiments.
- Designed after-deployment workflows including continuous monitoring and learning.

### RateMe

*Co-founder, ML Engineer (part-time)*

*Jan 2019 - Jan 2023*

- Developed cloth segmentation and cloth classification solutions using off-the-shelf deep networks.
- Designed data ontology and implemented pipelines for data standardization and processing.
- Implemented fully automated ML inference pipelines.
- Managed in-house GPU and web server. Built full-stack demo websites.

### Vispera

*R&D Intern*

*Jun 2018 - Dec 2018*

- Designed a mobile AR application that provides real-time object recognition on retail surfaces.
- Implemented on-device image preprocessing such automatic image capturing, rectification and stitching.
- Implemented a TensorRT backend which runs computer vision models for object.

## Scholastic Achievements

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- 2022-2023 **EDIC PhD Fellowship**
- 2020-2022 **EDIC Excellence Fellowship**
- 2020 **1st** ranked student, department of Computer Engineering, **Boğaziçi University**
- 2020 **2nd** best senior project, department of Computer Engineering, **Boğaziçi University**
- 2019 Erasmus exchange grant
- 2015-2020 Boğaziçi Success Scholarship, **Boğaziçi University**
- 2015-2020 National Success Scholarship, **Boğaziçi University**
- 2015 **3rd** ranked out of 1,987,488 students, **ÖSYS** (equivalent of SAT)
- 2015 Silver medal, **Türkiye National Informatics Olympiad**
- 2012 Silver medal, **Türkiye National Elementary Mathematics Olympiad**

## Teaching & Supervision Experience

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- **Teaching Experience**
  - Optimization for Machine Learning (Spring 2023, 2024, 2025)
  - Machine Learning (Fall 2023, 2024, 2025)
- **Master Project Supervision**
  - Mikulas Vanousek
  - Rodrigo Alvarez Lucendo
  - Margarita Sagitova
  - Ender Doğan Işık
  - Hichem Hadhri
  - Yauheniya Karelskaya

## Volunteering

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- 2023-2024 RAMP program EPFL for the years
- 2023 Digital support after Kahramanmaraş earthquake in Türkiye
- 2020 **Winter School on Synchronization with Suzan Üsküdarlı & NODDS Lab**
- 2015-2017 Tutored programming (10+ games supervised) and mathematics for primary and high school students.