Fırat Öncel

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EDUCATION

PhD, Computer Science
Concordia University, September 2023 - Ongoing
Concentration: Audio Processing, Large Language Models, Deep Learning
Supervisors: Asst. Prof. Dr. Cem Subakan & Asst. Prof. Dr. Mirco Ravanelli

PhD, Computer Engineering
Istanbul Technical University, July 2022 - August 2023 (Not Completed)
Concentration: Computer Vision, Deep Learning

Master of Science, Computer Engineering
Istanbul Technical University, September 2019 - July 2022
Concentration: Computer Vision, Deep Learning
Thesis Title: UGQE: Uncertainty Guided Query Expansion in Image Retrieval
Supervisor: Prof. Dr. Gozde Unal
GPA: 3.94/4.00

Bachelor of Science, Computer Engineering
Istanbul Technical University, September 2016 - August 2019
Concentration: Computer Vision
Graduation Project: *Building Detection with Deep Learning*
Supervisor: Prof. Dr. Gozde Unal
GPA: 3.41/4.00

Bachelor of Science, Mechanical Engineering
Istanbul Technical University, September 2013 - August 2016 (Not Completed)

High School
Kadikoy Anatolian High School, September 2008 - June 2013
GPA: 85.87/100

COMPUTER SKILLS

Languages & Software: Python, Numpy, PyTorch, JAX, C++, C, MATLAB, LaTeX, PyQT5, Verilog.

LANGUAGES

Turkish: Native
English: Advanced
French: Intermediate
German: Elementary

EXPERIENCE

Research Assistant   August 2023 - Present
Mila - Quebec AI Institute

Research and Teaching Assistant   August 2023 - Present
Concordia University, Conversational AI Lab

Research and Teaching Assistant   December 2019 - August 2023
Istanbul Technical University, Computer Vision and Artificial Intelligence Laboratory

Graduate Student Researcher   September 2019 - December 2019
Istanbul Technical University, Computer Vision and Artificial Intelligence Laboratory

Undergraduate Student Researcher   September 2018 - August 2019
Istanbul Technical University, Computer Vision and Artificial Intelligence Laboratory

Intern   July 2018 - August 2018
Istanbul Technical University, Computer Vision and Artificial Intelligence Laboratory
- Implemented machine learning algorithms using MATLAB.

Intern   June 2018 - July 2018
Istanbul Technical University, Embedded System Design Laboratory Institute
- Implemented image processing algorithms on FPGA using Verilog.

Volunteer IT Assistant   August 2017 - September 2017
FIBA Eurobasket 2017, Istanbul
- Helped to install and manage IT infrastructure.

Volunteer IT Assistant   September 2014 - October 2014
FIBA World Championship for Women 2014, Istanbul.
- Helped to install and manage IT infrastructure.

PUBLICATIONS **Oncel, F.**, Penaloza, E., Wu, H., Gupta, S., Ravanelli, M., Charlin, Laurent., Subakan, C. (2024). *Audio Prototypical Network for Controllable Music Recommendation IEEE International Workshop on Machine Learning for Signal Processing (2025).*
Oncel, F., Bethge, M., Ermis, B., Ravanelli, M., Subakan, C., Yıldız, Ç. (2024). *Adaptation Odyssey in LLMs: Why Does Additional Pretraining Sometimes Fail to Improve? The 2024 Conference on Empirical Methods in Natural Language Processing (EMNLP 2024).*
Oncel, F., Aygün, M., Baykal, G., Unal, G. (2022). *UGQE: Uncertainty Guided Query Expansion. Pattern Recognition and Artificial Intelligence. ICPRAI 2022.*
Bozkurt M., **Oncel F.**, Gürpınar C., Kose H., Unal G., 2022. *Facial Expressions Detection of Children with Hearing Impairment, 2022 30th Signal Processing and Communications Applications Conference (SIU), 1-4.*

ADMINISTRATIVE
SERVICES   *Faculty ABET Accreditation Commission Member*   February 2022 - August 2023
Istanbul Technical University Faculty of Informatics
- Helped to renew ABET accreditation of our faculty.

COMPLETED   *Deep Learning, Graph Theory, Artificial Intelligence (MSc Level)*   Fall 2019
COURSEWORK   *Deep Reinforcement Learning (PhD Level)*   Spring 2020
Causal Inference, Data Compression, Prob. Theo. & Stoch. Proc. (MSc Level)   Fall 2020
Theory of Computation (MSc Level)   Spring 2021
Applied Kalman Filtering, Discrete Optimization (MSc Level)   Fall 2022
3D Vision (PhD Level)   Spring 2023
Parallel Computing for GPUs using CUDA (MSc Level)   Spring 2023

ASSISTED COURSES

Concordia University

Machine Learning (Undergraduate Level)	Winter 2024, 2025, Fall 2024
Introduction to Deep Learning (Undergraduate Level)	Fall 2024
Applied Artificial Intelligence (Graduate Level)	Winter, Summer 2025
Applied Deep Learning (Graduate Level)	Winter 2025

Istanbul Technical University

Deep Learning (Graduate Level)	Fall 2021, Fall 2022
Multimedia Computing (Undergraduate Level)	Spring 2020, 2022, 2023
Linear Algebra and its Applications (Undergraduate Level)	Fall 2020
Linear Algebra (Undergraduate Level)	Fall 2020, 2021
Computer Architecture (Undergraduate Level)	Spring 2021, 2022, 2023
Discrete Event Simulation (Undergraduate Level)	Spring 2023
Signals and Systems (Undergraduate)	Spring 2021
Analysis of Algorithms II (Undergraduate Level)	Spring 2020
Analysis of Algorithms I (Undergraduate Level)	Fall 2020
System Programming (Undergraduate Level)	Fall 2021, Fall 2022
Microcomputer Laboratory (Undergraduate Level)	Fall 2022

SCHOLARSHIPS *2210-National Scholarship for MSc Students, in 2019,*
TUBITAK (The Scientific and Technological Research Council of Turkey)