Ömer Veysel Çağatan

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Education	**Koç University**, Istanbul BSc, Computer Engineering Tracks: Artificial Intelligence, Data Analytics	Sep 2020–Jun 2024

Professional Experience

Research Engineer, KUIS AI — Apr 2025–Present
Working on RL for LLMs, Material Discovery,Deep RL, Benchmarks, Tabular ML

NLP Intern, FineSci Technology supervised by Assoc. Prof. Alptekin Kupcu — Jul 2022–Oct 2022
Built Turkish sentiment analysis models; created large datasets and conducted cross-lingual benchmarking.

Research Experience

Research Fellow, SPAR — Sep 2025–Present
- Preventing Reward Hacking with Pessmistic RL
- Supervised by Dr.Xuandong Zhao, UC Berkeley

Undergraduate Research, Koç University — Nov 2022–Mar 2025
- Data-Efficient Reinforcement Learning – supervised by Asst. Prof. Barış Akgün
- Robustness of Self-Supervised Models – supervised by M. Emre Gürsoy
- Novel Vision Self-Supervised Learning Objective
- Non-Contrastive Sentence Embeddings – with Prof. Deniz Yuret and Prof. Alper Erdoğan

Teaching

Guest Lecture – COMP 438 (RL)	May 2025
Guest Lecture – COMP 442 (NLP)	May 2024
TA – ENGR200, Probability	Oct 2022–Jan 2023
Tutor – MATH204, Differential Equations	Feb 2022–Jun 2022

Awards

Vehbi Koç Scholar
Anatolian Scholarship Program

Skills

Programming: Python, C, C++, Java, LaTeX
Deep Learning: PyTorch, Flax/JAX

Academic Service Reviewer: ICLR 2026,2025, ACML 2023

| **Publications** | O. V. Cagatan and B. Akgun. *Failure Modes of Maximum Entropy RLHF*. Under Review in the Fourteenth International Conference on Learning Representations, 2026 (ICLR '26). |

O. V. Cagatan, O. F. Tal, and M. E. Gursoy. *Adversarial Robustness of Discriminative Self-Supervised Learning in Vision*. To appear in the IEEE/CVF International Conference on Computer Vision, 2025 (ICCV '25).

O. V. Cagatan and B. Akgun. *Uncovering RL Integration in SSL Loss: Objective-Specific Implications for Data-Efficient RL*. To appear in the Reinforcement Learning Conference, 2025 (RLC '25). Accepted to the NeurIPS 2024 Workshop: Self-Supervised Learning - Theory and Practice (NeurIPS SSL Workshop '24).

MMTEB Team, O. V. Cagatan. *MMTEB: Massive Multilingual Text Embedding Benchmark*. To appear in the Thirteenth International Conference on Learning Representations, 2025 (ICLR '25).

O. V. Cagatan. *SigCLR: Sigmoid Contrastive Learning of Visual Representations*. To appear in the NeurIPS 2024 Workshop: Self-Supervised Learning - Theory and Practice (NeurIPS SSL Workshop '24).

O. V. Cagatan. *UNSEE: Unsupervised Non-contrastive Sentence Embeddings*. To appear in the 18th Conference of the European Chapter of the Association for Computational Linguistics (EACL '24).

O. V. Cagatan. *ToddlerBERTa: Exploiting BabyBERTa for Grammar Learning and Language Understanding*. To appear in the CoNLL–CMCL 2023 Shared Task: The BabyLM Challenge (CONLL'23).

O. V. Cagatan and B. Akgun. *BarlowRL: Barlow Twins for Data-Efficient Reinforcement Learning*. To appear in the Asian Conference on Machine Learning, 2023 (ACML '23).