

İBRAHİM ETHEM DEVECİ

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EDUCATION

- METU, Graduate School of Informatics, Ankara, Turkey** Sep. 2024 – Present
- Doctoral Student in Cognitive Science
- METU, Graduate School of Informatics, Ankara, Turkey** Oct. 2020 – May 2024
- Master of Science in Cognitive Science
 - **GPA:** 4.00
 - **Thesis:** “Transformer Models for Translating Natural Language Sentences into Formal Logical Expressions”
- Koç University, College of Engineering, İstanbul, Turkey** Sep. 2014 – June 2020
- Bachelor of Science in Computer Engineering
 - Track Program Certificate in Brain and Cognitive Sciences

RESEARCH EXPERIENCE

- UNI-LM: A Universal Framework for Language Modeling (BİDEB-2232 / Lider Araştırmacılar Programı), Ankara, Turkey** June 2025 – Present
- Working as a doctoral researcher under Duygu Ataman, PhD, investigating large reasoning models, including evaluation methods, metrics, and benchmarks, and developing and testing reinforcement learning frameworks to enhance model reasoning and generalization.
- Spatial Audio Signal Processing for 6-DoF Immersive Environments (TÜBİTAK 1001 Project), Ankara, Turkey** Mar. 2022 – July 2023
- Worked as a TÜBİTAK (The Scientific and Technological Research Council of Türkiye) graduate scholar under Hüseyin Hacıhabiboğlu, PhD, developing virtual reality environments and 3D object models using Reality Capture for spatial sound processing experiments and algorithm testing in Unity.
- Koç University Research in Applied Memory (KURAM), İstanbul, Turkey** Jan. 2018 – June 2020
- Worked as an undergraduate research assistant in KURAM LAB under Sami Gülgöz, PhD, assisting in designing and running performance tasks using PsychoPy, collecting and analyzing behavioral data with Qualtrics, Excel, and SPSS, receiving training in experimental design, programming, and data analysis, and participating in weekly research meetings.

CERTIFICATIONS

- 36th European Summer School in Logic, Language, and Information (ESSLLI 2025)** July – Aug. 2025
Ruhr University Bochum, Bochum, Germany
- Awarded the RUB-Stiftung Fellowship, presented the paper “Transformer Models for Translating Natural Language Sentences into Formal Logical Expressions” at the Student Session, and participated in interdisciplinary coursework and workshops spanning logic, linguistics, formal semantics, category theory, argumentation theory, and neural networks.
- 15th Lisbon Machine Learning Summer School (LxMLS 2025)** July 2025
Instituto Superior Técnico, Lisbon, Portugal
- Participated in a six-day program on machine learning, covering neural networks, transformers, sequence models, causality, and vision-language models, and engaged in hands-on lab sessions and lectures.
- Artificial Intelligence: Fundamental Models, Problems, and Future** July 2024
TED University, Ankara, Turkey
- Attended advanced lectures on artificial intelligence, covering topics such as large language models, hybrid modeling approaches, transformers, sequence modeling, and the history of natural language processing.
- Brain and Cognitive Sciences Track Program** June 2020
Koç University, İstanbul, Turkey

- Completed courses in cognitive science track program, including topics in philosophy of mind, learning and cognition, programming, artificial intelligence, logic, rationality, philosophy of action, and language and cognition.

Artificial Intelligence and Formal Ontology Workshop

Sept. 2019

İstanbul University, İstanbul, Turkey

- Attended lectures on artificial intelligence and ontologies, covering ontology design principles, data integration, OWL, the semantic web, and real-world ontology applications.

Fundamental and Advanced Levels Logic Summer School

Oct. 2018

Boğaziçi University, İstanbul, Turkey

- Attended lectures on logic and artificial intelligence, covering classical and non-classical logics, inference types, computability, metalogic, non-monotonic and fuzzy logic, and neural networks.

PUBLICATIONS AND PRESENTATIONS

PUBLICATIONS

- Olgun, O., **Deveci, İ. E.**, & Hacıhabiboğlu, H. (**submitted**). Parametric sound field interpolation for scene-based navigable immersive audio. *IEEE/ACM Transactions on Audio, Speech, and Language Processing*.
- **Deveci, İ. E.** (2025). Yapay zekada sembolik ve sembolik olmayan ayrımı üzerine [On the distinction between symbolic and subsymbolic in artificial intelligence]. In Z. Göz (Ed.), *Yapay zekâ felsefesi* (pp. 173–236). Doruk Yayınları.
- **Deveci, İ. E.**, & Ataman, D. (2025). The Ouroboros of benchmarking: Reasoning evaluation in an era of saturation. *NeurIPS 2025 Workshop on Evaluating the Evolving LLM Lifecycle: Benchmarks, Emergent Abilities, and Scaling*. <https://arxiv.org/abs/2511.01365>
- Chang, T. A., Arnett, C., Eldesokey, A., ... **Deveci, İ. E.**, ... Wang, J. (2025). Global PIQA: Evaluating physical commonsense reasoning across 100+ languages and cultures [Preprint]. *arXiv*. <https://arxiv.org/abs/2510.24081>
- **Deveci, İ. E.** (2025). Transformer models for translating natural language sentences into formal logical expressions. In V. Gradimondo & E. E. Rosina (Eds.), *Proceedings of the ESSLLI 2025 Student Session, 36th European Summer School in Logic, Language, and Information* (pp. 162–171). Bochum, Germany. <https://philarchive.org/rec/GRAPOT-20>
- **Deveci, İ. E.**, Küskü, M., & Özkurt, T. E. (2021, September). Makinenin beni ve ötekisi [Machine's self and other]. *Pasajlar Sosyal Bilimler Dergisi*, 9 (Yapay Zekâ)

CONFERENCE PRESENTATIONS

- **Deveci, İ. E.** (2025, July 1–3). Evaluating Compositionality in Large Language Models through Natural Language to First-Order Logic Translation [Poster presentation]. *Joint IACAP/AISB Conference on Philosophy of Computing and AI (IACAP/AISB-25)*, University of Twente, Enschede, Netherlands.
- **Deveci, İ. E.** (2024, December 6). Why Machine Learning Needs Task-specific Metrics: A Case Study on Semantic Parsing Models [Poster presentation]. *METU Open Research Day*, Middle East Technical University, Ankara, Turkey.
- **Deveci, İ. E.** (2024, June 1). Transformer Models for Translating Natural Language Sentences into Formal Logical Expressions [Poster presentation]. *ISBCS 2024*, Middle East Technical University, Ankara, Turkey.
- **Deveci, İ. E.**, Zambak, A. F., & Temürcü, C. (2023, December 13). Bridging Words and Symbols: Using Transformers for Translating Sentences into Logical Expressions [Poster presentation]. *METU Open Research Day*, Middle East Technical University, Ankara, Turkey.
- **Deveci, İ. E.**, & Başoğlu, C. (2023, May 7). The Main Problem with Neuroimaging Research in Explaining Cognitive Faculties [Poster presentation]. *ISBCS 2023*, Özyeğin University, İstanbul, Turkey.
- Şahin, Y., & **Deveci, İ. E.** (2023, May 7). Against Representations That Do Not Represent: Reply to Thomson and Piccinini [Poster presentation]. *ISBCS 2023*, Özyeğin University, İstanbul, Turkey.

WORK EXPERIENCE

Coca Cola İçecek, Intern, Istanbul, Turkey 2019 (July – August)

- Developed augmented reality applications using Unity, Arduino, and Raspberry Pi within the Digital Technologies (DT) Department.

IAS, Intern, Istanbul, Turkey 2017 (July - August)

- Built client-server applications in the IT Department using Java RMI and NSSM.

Koç University, Work-Study Program, Dean of Students, Istanbul, Turkey 2017 (March – June)

- Assisted students with disabilities on campus by providing academic and logistical support and recorded and digitized books and lecture materials for students and the university library.

LEADERSHIP and VOLUNTEERING EXPERIENCE

Founder and President of METU Cognitive Science Society 2024 – 2025

- Organized and moderated introductory lectures and discussion groups on cognitive science.

Coordinator in CogIST 2021-2024

- Translated, edited, and reviewed cognitive science articles as editor-in-chief and coordinated and moderated both in-person and online events, including article discussions.

Vice President of Koç University Philosophy Society 2019-2020

- Organized and led bi-weekly discussion sessions and workshops on various philosophical topics

SKILLS AND ACTIVITIES

- **Technical Skills:** Python, PyTorch, Lisp, spaCy, Unity, MS Office, Adobe Photoshop
- **Experience with:** R, Java, C#, C/C++, MATLAB, Reality Capture, SPSS, PsychoPy, Qualtrics
- **Languages:** Turkish (native), English (fluent)
- **Interests:** Argumentation theory and computational argumentation, artificial intelligence, cognitive science, large language models, logic, natural language processing, philosophy of artificial intelligence, mind, mathematics, language and action, Aikido and martial arts