

Elif Akata

PhD student @ Human-Centered AI Lab, Helmholtz Munich & University of Tübingen

✉ elif.akata@uni-tuebingen.de 🏠 eliaka.github.io 📄 google scholar

Education

University of Tübingen 10/2022 – present
PhD Machine Learning & Cognitive Science Munich, Germany

- LLMs as social and collaborative agents, human-AI coordination
- Supervisors: Eric Schulz, Matthias Bethge
- International Max Planck Research School for Intelligent Systems (IMPRS-IS) Scholar

University of Tübingen 10/2019 – 2/2022
MSc Computer Science Tübingen, Germany

- Thesis on attention detection in the classroom (Human-Centered Technologies for Learning Lab, supervised by Enkelejda Kasneci)

Saarland University 10/2015 – 9/2019
BSc Computer Science Saarbrücken, Germany

- Thesis on EMG-based hand gesture recognition (Human-Computer Interaction Lab, supervised by Jürgen Steimle)

Experience

Visiting Researcher Oxford, UK
University of Oxford, Foerster Lab for AI Research (FLAIR) 1/2026 – 7/2026

- Human-AI Collaboration, supervised by Jakob Foerster

Research Assistant Tübingen, Germany
Tübingen AI Center, Computational Neuroscience and Machine Learning Lab 10/2021 – 9/2022

- Developed computational creativity and generative art applications by programming the Boston Dynamics Spot robot with the Spot SDK to autonomously generate drawings.

Research Assistant Tübingen, Germany
University of Tübingen, Human-Centered Technologies for Learning Lab 8/2021 – 9/2021

- Processed and analysed classroom activity data for an attention-based automated detection system.

Research Intern Stuttgart, Germany
Max Planck Institute for Intelligent Systems, Haptic Intelligence 9/2020 – 11/2020

- Contributed to the sensor-specific component of an ASL sign-recognition device translating hand movements into text, supervised by Katherine Kuchenbecker

Student Research Assistant Saarbrücken, Germany
Max Planck Institute for Software Systems, Programming Analysis and Verification 5/2017 – 4/2019

- Built benchmark programs for the Daisy numerical optimization framework and evaluated performance on resource-constrained hardware like Arduinos, supervised by Eva Darulova

Publications

- **Akata, E.**, Schulz, L., Coda-Forno, J., Oh, S. J., Bethge, M., and Schulz, E. (2025). Playing repeated games with large language models. *Nature Human Behaviour*. <https://doi.org/10.1038/s41562-025-02172-y>
- **Akata, E.***, Voudouris, K.*, Fortuin, V., and Schulz, E. (2026). In-context function learning in large language models. *AISTATS*.
- Buschhoff, L. M. S.*, **Akata, E.***, Bethge, M., and Schulz, E. (2025a). Visual cognition in multimodal large language models. *Nature Machine Intelligence*. <https://doi.org/10.1038/s42256-024-00963-y>
- Binz, M., **Akata, E.**, Bethge, M., et al. (2025). A foundation model to predict and capture human cognition. *Nature*. <https://doi.org/10.1038/s41586-025-09215-4>

- Buschhoff, L. M. S.*, Voudouris, K.*, **Akata, E.**, Bethge, M., Tenenbaum, J. B., and Schulz, E. (2025b). Testing the limits of fine-tuning to improve reasoning in vision language models. *ICML*.

Learning and Teaching

| | |
|---|--|
| Brains, Minds & Machines Summer Course <i>MIT CBMM, Participant</i> | <i>Aug 2024</i> Woods Hole, USA |
| International Computer Vision Summer School (ICVSS) <i>University of Catania & University of Cambridge, Participant</i> | <i>Jul 2023</i> Sicily, Italy |
| Trustworthy Machine Learning <i>TA for a 6 Credit MSc lecture at University of Tübingen</i> | <i>WS 2022/2023</i> Tübingen, Germany |

Invited Talks

| | |
|--|------------------------------------|
| Human Information Processing Lab Talk <i>University of Oxford, hosted by Chris Summerfield</i> | <i>Feb 2026</i> Oxford, UK |
| Algorithmic Game Theory, Guest Lecturer <i>Hertie School, hosted by Asya Magazinnik</i> | <i>Nov 2025</i> Berlin, Germany |
| Generative AI in Social Science Research Workshop <i>London School of Economics, hosted by the Department of Methodology</i> | <i>Jun 2024</i> London, UK |
| Experimental Psychology Departmental Talk <i>UCL, hosted by Maarten Speekenbrink</i> | <i>Jun 2024</i> London, UK |

Awards

| | |
|--|-------------|
| BMM 2024 Summer School Travel Grant & Scholarship <i>MIT Center for Brains, Minds and Machines, \$3000</i> | <i>2024</i> |
| Cyber Valley Start-up Incubation Program <i>Our startup concept won the Sustainability Award sponsored by Carl Zeiss Foundation, €2000</i> | <i>2023</i> |

Skills and Interests

Languages: English (IELTS Academic Band 7.5), German (DSH-2, CEFR Level C1), Turkish (Native)

Coding: Python, C/C++, PyTorch, Numpy, SciKit-Learn, Git, model fine-tuning (SFT, GRPO) on HPC

Drawing & Illustration (my design for our paper made the cover of Nature Machine Intelligence in January 2025)

Tennis (club player now and was decent as a junior with Edirne U12 #1 and Marmara U10 #3 rankings)