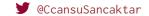
Cansu Sancaktar









Education

2021 – present

- ♦ **Ph.D. Computer Science,** Max Planck Institute for Intelligent Systems & University of Tübingen, Advisor: Prof. Georg Martius. [Expected graduation: Feb 2026]
 - ➤ Intrinsically Motivated Open-ended Learning, Unsupervised Exploration in Reinforcement Learning (RL), Model-based RL and Large-scale Robot Learning.

♦ **M.Sc. Electrical Engineering and Information Technology**, Technical University of Munich.

Graduated with High Distinction, GPA 4.0/4.0 (German grading system: 1.0)

➤ Specialization in Robotics and Machine Learning

2015 - 2018

♦ **B.Sc. Electrical Engineering and Information Technology**, Technical University of Munich.

Graduated with High Distinction, GPA 4.0/4.0 (German grading system: 1.0)

2010 - 2015

♦ **German Foreign High School, Abitur Diploma**, Istanbul Lisesi. GPA 4.0/4.0 (German grading system: 1.0), Graduated as top of my class.

Work Experience

April – Sep 2025

Research Internship, Meta FAIR, Paris — CodeGen Team.
Asymmetric self-play and curriculum learning for RL-based training of LLMs.

July - Nov 2024

Research Internship, Qualcomm AI Research, Amsterdam.
Investigated hybrid reasoning strategies to improve robustness and generalization in Vision-Language-Action models.

Apr 2017 & Sep-Oct 2017

Research Engineering Internship, Intel, Munich.
Computational cost estimation of machine learning algorithms for LTE modem power optimization

Publications

Pietro Mazzaglia, Cansu Sancaktar, Markus Peschl and Daniel Dijkman. Hybrid Thinking in Vision-Language-Action Models, 3rd CoRL Workshop on Learning Effective Abstractions for Planning, 2025.

Cansu Sancaktar*, Christian Gumbsch*, Andrii Zadaianchuk, Pavel Kolev and Georg Martius. SENSEI: Semantic Exploration Guided by Foundation Models to Learn Versatile World Models, **ICML 2025**. [Project Page]

Jiaqi Chen, Ji Shi, **Cansu Sancaktar**, Jonas Frey and Georg Martius. Offline vs. Online Learning in Model-based RL: Lessons for Data Collection Strategies, **RLC 2025**.

Albane Ruaud, **Cansu Sancaktar**, Marco Bagatella, Christoph Ratzke and Georg Martius. Modelling Microbial Communities with Graph Neural Networks, **ICML 2024**. [Project Page]

Cansu Sancaktar, Justus Piater and Georg Martius. Regularity as Intrinsic Reward for Free Play, NeurIPS 2023. [Project Page, Code]

Bhavya Sukhija, Lenart Treven, **Cansu Sancaktar**, Sebastian Blaes, Stelian Coros and Andreas Krause. Optimistic Active Exploration of Dynamical Systems, **NeurIPS 2023**.

Cansu Sancaktar, Sebastian Blaes and Georg Martius. Curious Exploration via Structured World Models Yields Zero-Shot Object Manipulation, **NeurIPS 2022**. [Code]

• Best poster award at the IEEE RAS Technical Committee on Model-Based Optimization for Robotics poster event 2022.

Nico Gürtler, Felix Widmaier, **Cansu Sancaktar**, ... and Georg Martius, Real robot challenge 2022: Learning dexterous manipulation from offline data in the real world., **NeurIPS 2022 Competition Track**.

Cansu Sancaktar, Marcel van Gerven, and Pablo Lanillos. End-to-End Pixel-Based Deep Active Inference for Body Perception and Action, 10th International Conference on Development and Learning and Epigenetic Robotics (ICDL-EpiRob), IEEE, 2020. [Poster presentation, Code]

Honors & Awards

2017 - 2021 ♦ Scholarship Holder of the Max Weber-Program.

This program aims at highly gifted students at universities in Bavaria.

2015 – 2020 O DAAD Scholarship Holder.

A merit-based scholarship granted for my studies in Germany.

Professional Activities

Workshops & Competitions

Outreach

Teaching & Supervision

2024 ♦ Jiaqi Chen, ETH Zürich, Master's Thesis: Offline vs. Online Learning in Model-based RL: Lessons for Data Collection Strategies (accepted at RLC 2025)

- ♦ **Pulkit Goyal, University of Tübingen**, Master's Thesis: Building Visual Semantic Bias in Curious Exploration during Free Play.
- 2023 **Pro-seminar in Reinforcement Learning**, University of Tübingen.
 - ♦ Pulkit Goyal, University of Tübingen, Essay Rotation: Can Self-Exploring (Curious) RL Agents Model OCD?
 - ♦ **Shukrullo Nazirjonov, CaCTüS Internship**, Extending Intrinsically Motivated Reinforcement Learning to Real Robots.

Theses

 Master's Thesis: State-Space Models for Discovering Low-Dimensional Dynamics in Neurophysiological Recordings

➤ Advisor: Prof. Jakob Macke, *Machine Learning in Science*, University of Tübingen.

➤ Advisor: Prof. Wolfgang Utschick, *Methods of Signal Processing*, TUM.

Skills

Languages \diamond Turkish (native), English (C2), German (C2), Korean (A1).

Programming \diamond Python, C, C++, MATLAB, HTML, Linux/Shell Script.

Invited Talks

♦ BeNeRL Seminar Series, *Nov* 2023.

- ♦ Human and Machine Cognition Lab (Charley Wu) at the University of Tübingen, Nov 2023.
- ♦ Computational Principles of Intelligence lab (Eric Schulz) at Max Planck Institute for Biological Cybernetics, *Mar 2023*.
- ♦ Scientific talk at the 2023 IMPRS-IS Interview Symposium, *Jan 2023*.