Cansu Sancaktar

LinkedIn - Scholar - Github - Twitter

EDUCATION

Max Planck Institute for Intelligent Systems
PhD Candidate **Started in April 2021**
- Focusing on Active Exploration, Unsupervised Reinforcement Learning and Robotics

Technical University of Munich, Electrical Engineering and Information Technology
Master of Science **2021**
Graduated with High Distinction, GPA 4.0/4.0 (German grading system: 1.0)
- Specialization in Robotics and Automation

Technical University of Munich, Electrical Engineering and Information Technology
Bachelor of Science **2018**
Graduated with High Distinction, GPA 4.0/4.0 (German grading system: 1.0)

Istanbul Lisesi (High School), Turkey
German Abitur Diploma: 1.0, Graduated as top of my class **2015**

HONORS & AWARDS

Scholarship holder of the Max Weber-Program **2017 - 2021**
- This program aims at highly gifted students at universities in Bavaria.

DAAD Scholarship Holder **2015 - 2020**
- A merit-based scholarship granted for my studies in Germany.

8th Asian Science Camp **Aug 2014**
- Chosen as one of the 8 representatives of Turkey at the 8th Asian Science Camp which is an event organized by Nobel laureates.

PUBLICATIONS

Cansu Sancaktar, Justus Piater and Georg Martius. Regularity as Intrinsic Reward for Free Play, **Preprint, under review**.

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

Cansu Sancaktar, Sebastian Blaes and Georg Martius. Curious Exploration via Structured World Models Yields Zero-Shot Object Manipulation, **NeurIPS 2022**.
- Also presented at the European Workshop on Reinforcement Learning 2022.
- Best poster award at the IEEE RAS Technical Committee on Model-Based Optimization for Robotics poster event 2022.

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

WORK EXPERIENCE

Internship at Intel Deutschland GmbH, Munich **April 2017 & Sep-Oct 2017**
- Computational Cost Estimation of Machine Learning Algorithms for LTE Modem Power Optimization

Tutor for *Digital Design* at Technical University of Munich **Winter term 2016/2017 & 2017/2018**

PROFESSIONAL ACTIVITIES

Co-organizer of the workshop Intrinsically Motivated Open-ended Learning at **NeurIPS 2023**.

Co-organizer of the competition Real Robot Challenge III - Learning Dexterous Manipulation from Offline Data in the Real World at **NeurIPS 2022**.

OUTREACH & LEADERSHIP

Member of the coordination team of the S4 Seminar Series of the IMPRS-IS graduate program **November 2022 -**

Elected student representative of the IMPRS-IS graduate program for MPI-IS Tübingen. **October 2022 -**

Co-organizer of the *Talk & Talk* series at the Max Planck Institute for Intelligent Systems. **April 2021 - October 2022**

THESES

Master's Thesis at the *Machine Learning in Science* lab at the University of Tübingen (previously Chair of Computational Neuroengineering at TUM) **2020**

- Thesis Title: State-Space Models for Discovering Low-Dimensional Dynamics in Neurophysiological Recordings
- Advisor: Prof. Dr. rer. nat. Jakob Macke

Bachelor's Thesis at the Chair of Methods of Signal Processing (TUM) **2018**

- Thesis Title: Long Short-Term Memory Networks as Adaptive Filters
- Advisor: Prof. Dr.-Ing. Wolfgang Utschick

PROJECTS

Final Project in the Course *Humanoid Robotic Systems* at the Institute for Cognitive Systems (TUM) **Dec 2019 - Jan 2020**

- Use machine learning to throw with the Aldebaran NAO robot.

Final Project in the Practical Course *Biosignal Processing and Modeling* at the Institute for Cognitive Systems (TUM) **April - Jul 2019**

- Control a Zumo trackbot with EEG signals.

SKILLS

Programming Languages: Python, C, C++, Matlab, Simulink
Tools/Frameworks: PyTorch, Tensorflow, Keras
Robotics: ROS, Gazebo, Arduino
Misc: Latex, Inkscape
Languages: Turkish (native), English (C2), German (C2), Korean (A1)

RELEVANT COURSES

• Machine Learning • Robotics • Dynamic Systems and Control • Signal Processing • Stochastic Signals • Human-Machine Interaction • Computer Vision • Neuroprosthetics • Biologically-Inspired Learning for Humanoid Robots • Humanoid Robotic Systems • Pattern Recognition • Circuit Theory • Digital Design • Algorithms and Data Structures • Linear Algebra • Analysis • Physics • Numerical Analysis

INTERESTS

Painting, Reading, Swimming, Tennis, Public Speaking