

# Cansu Sancaktar

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- EDUCATION**
- Max Planck Institute for Intelligent Systems  
*PhD in Computer Science* **April 2021 - present**
- Research Focus on Unsupervised Exploration in Reinforcement Learning (RL), Model-based RL and Curiosity-driven Robot Learning
  - Supervised by Prof. Georg Martius
- 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, NeurIPS 2023](#). [[Project Page](#)]
- Bhavya Sukhija, Lenart Treven, **Cansu Sancaktar**, Sebastian Blaes, Stelian Coros and Andreas Krause. [Optimistic Active Exploration of Dynamical Systems, NeurIPS 2023](#).
- Albane Ruaud, **Cansu Sancaktar**, Marco Bagatella, Christoph Ratzke and Georg Martius. [Modelling Microbial Communities with Graph Neural Networks, AI for Science Workshop NeurIPS 2023](#). [[Project Page](#)]
- Cansu Sancaktar**, Sebastian Blaes and Georg Martius. [Curious Exploration via Structured World Models Yields Zero-Shot Object Manipulation, NeurIPS 2022](#). [[Code](#)]
- 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](#), [Code](#)]

<b>WORK EXPERIENCE</b>	Internship at Intel Deutschland GmbH, Munich <b>Apr 2017 &amp; Sep-Oct 2017</b> <ul style="list-style-type: none"> <li>• Computational Cost Estimation of Machine Learning Algorithms for LTE Modem Power Optimization</li> <li>• Designed and implemented a custom MATLAB framework for training Recurrent Neural Networks from scratch (without automatic differentiation)</li> </ul>
<b>PROFESSIONAL ACTIVITIES</b>	Co-organizer of the workshop <a href="#">Intrinsically Motivated Open-ended Learning</a> at <b>NeurIPS 2023</b> .  Co-organizer of the competition <a href="#">Real Robot Challenge III - Learning Dexterous Manipulation from Offline Data in the Real World</a> at <b>NeurIPS 2022</b> .
<b>OUTREACH &amp; LEADERSHIP</b>	Member of the coordination team of the S4 Seminar Series of the IMPRS-IS graduate program <b>Nov 2022 - present</b>  Elected student representative of the IMPRS-IS graduate program for MPI-IS Tübingen. <b>Oct 2022 - 2023</b>  Co-organizer of the <i>Talk &amp; Talk</i> series at the Max Planck Institute for Intelligent Systems. <b>Apr 2021 - Oct 2022</b>
<b>THESES</b>	Master's Thesis at the <i>Machine Learning in Science</i> lab at the University of Tübingen (previously Chair of Computational Neuroengineering at TUM) <b>2020</b> <ul style="list-style-type: none"> <li>• Thesis Title: <a href="#">State-Space Models for Discovering Low-Dimensional Dynamics in Neurophysiological Recordings</a></li> <li>• Advisor: Prof. Dr. rer. nat. Jakob Macke</li> </ul> Bachelor's Thesis at the Chair of Methods of Signal Processing (TUM) <b>2018</b> <ul style="list-style-type: none"> <li>• Thesis Title: <a href="#">Long Short-Term Memory Networks as Adaptive Filters</a></li> <li>• Advisor: Prof. Dr.-Ing. Wolfgang Utschick</li> </ul>
<b>PROJECTS</b>	Final Project in the Course <i>Humanoid Robotic Systems</i> at the Institute for Cognitive Systems (TUM) <b>Dec 2019 - Jan 2020</b> <ul style="list-style-type: none"> <li>• <a href="#">Use machine learning to throw with the Aldebaran NAO robot.</a></li> </ul> Final Project in the Practical Course <i>Biosignal Processing and Modeling</i> at the Institute for Cognitive Systems (TUM) <b>Apr - July 2019</b> <ul style="list-style-type: none"> <li>• <a href="#">Control a Zumo trackbot with EEG signals.</a></li> </ul>
<b>SKILLS</b>	<p><b>Programming Languages:</b> Python, C, C++, MATLAB</p> <p><b>Tools/Frameworks:</b> PyTorch, Tensorflow, JAX (newbie), Keras</p> <p><b>Robotics:</b> ROS, Gazebo, Arduino</p> <p><b>Misc:</b> Latex, Inkscape, Simulink</p> <p><b>Languages:</b> Turkish (native), English (C2), German (C2), Korean (A1)</p>
<b>RELEVANT COURSES</b>	<ul style="list-style-type: none"> <li>• Machine Learning • Robotics • Dynamic Systems and Control • Signal Processing</li> <li>• Stochastic Signals • Human-Machine Interaction • Computer Vision • Neuroprosthetics</li> <li>• Biologically-Inspired Learning for Humanoid Robots • Humanoid Robotic Systems</li> <li>• Pattern Recognition • Circuit Theory • Digital Design • Algorithms and Data Structures</li> <li>• Linear Algebra • Analysis • Physics • Numerical Analysis</li> </ul>
<b>INTERESTS</b>	Painting, Reading, Swimming, Tennis, Public Speaking