

Maximilian Xiling Li

maximilian.li@kit.edu | Karlsruhe, Germany | lixiling.github.io | [GitHub](#) | [LinkedIn](#) | [Google Scholar](#)

EXPERIENCE

Intuitive Robots Lab, Karlsruhe Institute of Technology

PhD Researcher

2022 – now

Karlsruhe, Germany

- Research on concept-aware robot policies: interpretable building blocks for what robots perceive (visual affordances; prototypes such as HyperPG, probabilistic prototypes on the hypersphere) and how they move (force-aware movement primitives).
- One of the lab's first PhD researchers, helping build it up since its founding in 2022, including its bimanual robot learning stack: microservices from WebXR teleoperation and data processing to policy deployment on Franka Research 3 Duo.
- Papers at CoRL, CVPR, ICRA, RSS and NeurIPS, including datasets and benchmarks for robot vision and bimanual manipulation.
- Teaching assistant for the Explainable AI lecture; co-teaches seminars and lab courses on explainable AI, behavior foundation models and robot learning; supervised 9 Bachelor's and Master's theses, one published at ICRA 2025.

Poke & Wiggle

Intern, MLOps & Robot VLA

2025

Munich, Germany

- Helped organize and host the Humanoid Manipulation & AI Hackathon at the Deutsches Museum Munich, together with TUM.
- Implemented the hackathon's robot learning stack end to end: raw data processing, policy training and deployment.

SAP, Big Data Intelligence and Research

Research Working Student

2013 – 2017

EDUCATION

Karlsruhe Institute of Technology

M.Sc. Computer Science

2018 – 2022

Karlsruhe, Germany

- Thesis: *Imitation Learning for Versatile Robot Manipulation* (Autonomous Learning Robots Lab). Research assistant at the Human-Centered Systems Lab and the Autonomous Learning Robots Lab.

TU Darmstadt

B.Sc. Computer Science

2013 – 2018

Darmstadt, Germany

- Thesis: *Development of a Content-Based Image Retrieval System via Deep Learning* (Fraunhofer SIT). Exchange student at Tongji University, Shanghai.

SELECTED PUBLICATIONS

- **SPARC: Reliable Spatial Annotations from Robot Demonstrations at Scale.** Nils Blank, Paul Mattes, **Maximilian Xiling Li**, Jakub Suliga, Thomas Roth, Moritz Reuss, Pankhuri Vanjani, Rudolf Lioutikov. *CoRL* 2026.
- **SIR: Structured Image Representations for Explainable Robot Learning.** Paul Mattes, Jan Schwab, Jens Bosch, Nils Blank, **Maximilian Xiling Li**, Minh-Trung Tang, Moritz Haberland, Rudolf Lioutikov. *CVPR* 2026.
- **Use the Force, Bot! — Force-Aware ProDMP with Event-Based Replanning.** Paul Werner Lödige, **Maximilian Xiling Li**, Rudolf Lioutikov. *ICRA* 2025.
- **An Overview of Prototype Formulations for Interpretable Deep Learning.** **Maximilian Xiling Li**, Korbinian Franz Rudolf, Paul Mattes, Nils Blank, Rudolf Lioutikov. *arXiv preprint* 2024.
- **Goal-Conditioned Imitation Learning using Score-based Diffusion Policies.** Moritz Reuss, **Maximilian Li**, Xiaogang Jia, Rudolf Lioutikov. *RSS* 2023.
- **Curriculum-Based Imitation of Versatile Skills.** **Maximilian Xiling Li**, Onur Celik, Philipp Becker, Denis Blessing, Rudolf Lioutikov, Gerhard Neumann. *ICRA* 2023.

Full list: lixiling.github.io/publications | [Google Scholar](#)

TALKS & SERVICE

- **Talk:** *Towards Concept-Aware Robot Policies*, Shanghai Research Institute for Intelligent Autonomous Systems, Tongji University, Apr 2026
- **Reviewer:** CoRL, RSS, ICRA, NeurIPS, ICML, ICLR, CVPR, WACV, JMLR

SKILLS & INTERESTS

- **Robot learning:** Python, PyTorch, LeRobot, starVLA, MuJoCo, Weights & Biases
- **Robotics & infrastructure:** ROS 2, Docker, Franka Panda, Franka Research 3 Duo, WebXR
- **Languages:** German (native), Chinese (bilingual), English (professional)
- **Interests:** Anything with a good story: books, video games, and running tabletop campaigns as a Dungeons & Dragons game master.