

Anton Baumann

Scholar: Google Scholar

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EDUCATION

- **ETH Zurich** From Oct. 2026
PhD in Computer Science, Learning & Adaptive Systems Group
 - Advised by Andreas Krause, with Zeynep Akata (TUM) as secondary advisor.
- **ETH Zurich** Oct. 2025 – Aug. 2026
Master's Thesis in Computer Science, Learning & Adaptive Systems Group
 - Supervised by Andreas Krause (ETH Zurich) and Zeynep Akata (TUM); day-to-day supervision by Jonas Hübötter.
 - Worked on the *Reinforcement Learning via Self-Distillation* project, resulting in a co-second-author paper accepted at **ICML 2026**.
- **Technical University of Munich** Oct. 2023 – Aug. 2026
Master of Science in Computer Science (German GPA: 1.1)
 - Ranked **1st of 202** students in the TUM MSc Informatics cohort.
 - Exchange semester at KTH Royal Institute of Technology, Stockholm.
- **Technical University of Munich** Oct. 2018 – May 2022
Bachelor of Science in Computer Science, Minor in Mathematics
 - **Thesis:** "EGFX: Determining Optical Flow on Arbitrary Surfaces – An Extended Horn & Schunck Approach for Electrographic Flow Mapping", supervised by Prof. Daniel Cremers (grade: 1.0).

SELECTED PUBLICATIONS

- **Reinforcement Learning via Self-Distillation**
Jonas Hübötter, Frederike Lübeck, Lejs Behric*, Anton Baumann* et al.; Accepted at ICML 2026; *equal second authorship*
Preprint: arxiv.org/abs/2601.20802 **GitHub:** github.com/lasgroup/SDPO (★ 1100+)
- **Probabilistic Active Few-Shot Learning in Vision-Language Models**
Anton Baumann et al.; Accepted at ICLR 2026; Presented at BDU Workshop at NeurIPS 2024 (lightning talk & poster)
Preprint: arxiv.org/abs/2412.06014 **GitHub:** github.com/AaltoML/BayesVLM
- **Probabilistic MIMO U-Net: Efficient and Accurate Uncertainty Estimation for Pixel-wise Regression**
Anton Baumann, Thomas Roßberg, Michael Schmitt; Accepted at UnCV Workshop at ICCV 2023 (oral presentation)
Preprint: arxiv.org/abs/2308.07477 **GitHub:** github.com/antonbaumann/mimo-unet

SELECTED EXPERIENCE

- **Aalto University, Helsinki** May 2024 – May 2025
Summer Research Intern, Machine Learning Research Group
 - Research on probabilistic methods for vision-language models in Arno Solin's group (supervised by Martin Trapp).
 - First-author paper on probabilistic methods for vision-language models; presented at a **NeurIPS 2024 workshop** (lightning talk & poster), extended version **accepted at ICLR 2026**.
 - Selected as one of **69 participants from 4,300 applicants** for the Aalto Summer Research Internship Program.
- **Bundeswehr University, Munich** Feb. 2023 – May 2024
Research Assistant, Earth Observation Lab
 - Developed probabilistic machine learning and data fusion methods for Earth observation and remote sensing.
 - First-author publication at the **ICCV 2023 Workshop** on Uncertainty Quantification for Computer Vision (**oral presentation** & poster); shared first-author paper at ISPRS TCIII 2024.
- **molab.ai, Munich** Aug. 2022 – Feb. 2023
Data Scientist (Internship, then Part-time)
 - Implemented graph neural network architectures for chemical property prediction in PyTorch, reproducing results from recent literature and training models on proprietary molecular datasets.
 - Designed and implemented the company's data pipeline and built a unified model framework with a scikit-learn-style API for property prediction models.
- **Ablacon GmbH, Munich** Mar. 2020 – May 2022
Researcher (Working Student), then Bachelor's Thesis (Full-time)
 - **Bachelor's Thesis:** Extension of the Horn & Schunck optical flow method for electrographic flow mapping (patent pending).
 - Developed and implemented an extension of the Horn & Schunck optical flow algorithm for electrographic flow analysis and active source detection on curved surfaces in n-dimensional space.
 - Collaborated with a team of four research engineers to integrate the method into a prototype of the company's core product.

SKILLS SUMMARY

- **Languages:** Python, Golang, SQL
- **ML:** PyTorch, PyTorch Geometric, verl, distributed training (FSDP)
- **Research:** probabilistic ML, vision-language models, uncertainty estimation, RL post-training
- **Spoken Languages:** German (native), English (C1)