

Emil Partow

Research Associate

Mathematical Foundations of
Machine Learning

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CURRENT POSITION

Since 02/2026 — **Research Associate (Wissenschaftlicher Mitarbeiter)** *(Ludwig-Maximilians-Universität München)*

- Doctoral project at the Chair for Mathematical Foundations of Artificial Intelligence, supervised by Prof. Dr. Gitta Kutyniok
- Member of the Munich Center for Machine Learning (MCML) and the DFG Research Training Group METEOR (LMU & TUM)
- Research interests: uncertainty quantification, probabilistic prediction, statistical learning theory, generative models, control, AI agents for research

EDUCATION

04/2023 - 08/2025 — **M.Sc. in Business Mathematics** *(TU Berlin)*

- Final grade: 1.1; Master's thesis: *"Error Analysis for Learned Sparse Grid Quadrature Rules Generated with Flow Matching"* (grade: 1.0), supervised by Prof. Dr. Hanno Gottschalk

10/2019 - 11/2022 — **B.Sc. in Business Mathematics** *(TU Berlin)*

- Final grade: 1.7; Bachelor's thesis: *"Duality Theory for Utility Maximization in Illiquid Markets"* (grade: 1.0), supervised by Prof. Dr. Peter Bank

RESEARCH, PUBLICATIONS & TALKS

10/2026 — **"SCORE: Spectral Correlation Estimation for Multivariate Gaussians"**

- C. Bülte, **E. Partow**, A. Gupta, P. Esser, G. Kutyniok; preprint arXiv:2610.12096
- Learns covariances of high-dimensional Gaussian targets in spectral space ($\mathcal{O}(d \log d)$ cost) with the closed-form Gaussian kernel score; PAC bounds; forecasting, depth and weather experiments

06/2026 — **Invited talk: "The Agentic Researcher: Turning AI Coding Agents into Research Assistants"**

- relAI – Konrad Zuse School of Excellence in Reliable AI

07/2025 — **"Consistency of Learned Sparse Grid Quadrature Rules Using Neural ODEs"**

- Joint work with Prof. Dr. Hanno Gottschalk and Dr. Tobias J. Riedlinger; preprint arXiv:2507.01533
- Proved (PAC-)learnability of sparse grid quadrature rules learned with neural ODEs

AWARDS

01/2026 — **Silver Medal (59th of 3,359 teams) – Kaggle Santa 2025: Christmas Tree Packing Challenge**

- Optimization: pack $N = 1, \ldots, 200$ Christmas-tree polygons into the smallest square

09/2025 — **2nd Place – "Fake or Real: The Impostor Hunt in Texts"** *(European Space Agency & Kaggle)*

- 2nd of 994 teams in detecting manipulated mission texts; invited to the ESA AI STAR Conference 2025

EXPERIENCE

04/2023 - 11/2023
10/2021 - 09/2022 — **Teaching Assistant, Institute of Mathematics** *(TU Berlin)*

- Tutorials and exams in Analysis, Linear Algebra and Probability (Profs. König, Knochenhauer, Penn-Karas)

10/2022 - 03/2023 — **IT Consulting Intern** *(Senacor Technologies AG)*

- Developed a test framework for REST API endpoint validation (Postman); selected for the talent pool, return offer

2018 - 2022 — **Rowing Coach** *(Berliner Ruderclub e.V.)*: training sessions, training camps and competitions

SKILLS

Languages	German (native) / English (fluent) / French (B2, DELF)	
Technical Tools	Python (NumPy, PyTorch, TensorFlow, scikit-learn), Julia, R, Rust, LaTeX	Advanced
	LLM coding agents (Claude Code, Codex), multi-agent LLM ensembles	Advanced