

# Anselm Paulus

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✂ AnselmPaulus • [a-paulus](https://github.com/a-paulus) • Last updated on December 15, 2025

## Current Position

**Research Scientist Intern**, *Meta, Fundamental AI Research (FAIR)*, Menlo Park, CA (with [Arman Zharmagambetov](#) on game-theoretical perspectives on LLM safety) 2025 – Present  
**Ph.D. Student in Machine Learning**, *University of Tuebingen & Max-Planck-Institute for Intelligent Systems*, Tuebingen, Germany (supervised by [Georg Martius](#) on differentiable optimization and simulation) 2022 – Present

## Education

**M.Sc. in Computer Science**, *University of Tuebingen* (4.00/4.00) 2021 – 2022  
**B.S. in Computer Science**, *University of Tuebingen* (3.73/4.00) 2018 – 2021  
**B.S. in Physics**, *University of Tuebingen* (3.80/4.00) 2015 – 2021

## Previous Positions

**Research Scientist Intern**, *Meta, Fundamental AI Research (FAIR)*, New York City (with [Brandon Amos](#) on amortized optimization for LLM safety) 2023 – 2024  
**Research Assistant**, *Max-Planck-Institute for Intelligent Systems*, Tuebingen, Germany (with [Georg Martius](#) on differentiable combinatorial optimization) 2016 – 2019

## Publications [Google Scholar: 0.9k+ citations]

Selected publications I am a primary author on are highlighted.

2025.....

1. *AdvPrompter: Fast Adaptive Adversarial Prompting for LLMs* [code]  
**Anselm Paulus\***, Arman Zharmagambetov\*, Chuan Guo, Brandon Amos<sup>†</sup>, and Yuandong Tian<sup>†</sup>  
ICML 2025
2. *Hard Contacts with Soft Gradients: Refining Differentiable Simulators for Learning and Control*  
**Anselm Paulus\***, Andreas René Geist\*, Pierre Schumacher, Vít Musil, and Georg Martius  
Under submission 2025

2024.....

3. *LPGD: A General Framework for Backpropagation through Embedded Optimization Layers* [code]  
**Anselm Paulus**, Georg Martius, and Vít Musil  
ICML 2024

2023.....

4. *Backpropagation through Combinatorial Algorithms: Identity with Projection Works* [code]  
**Anselm Paulus\***, Subham Sekhar Sahoo\*, Marin Vlastelica, Vít Musil, Volodymyr Kuleshov, and Georg Martius  
ICLR 2023

2021.....

5. [CombOptNet: Fit the Right NP-Hard Problem by Learning Integer Programming Constraints](#) [code]  
**Anselm Paulus**, Michal Rolínek, Vít Musil, Brandon Amos, and Georg Martius  
ICML 2021 (Spotlight, Oral at LMCA NeurIPS 2020 workshop)

2020.....

6. [Differentiation of Blackbox Combinatorial Solvers](#) [code]  
**Anselm Paulus\***, Marin Vlastelica P.\*, Vít Musil, Georg Martius, and Michal Rolínek  
ICLR 2020 (Spotlight)
7. [Optimizing Rank-based Metrics with Blackbox Differentiation](#) [code]  
Michal Rolínek\*, Vít Musil\*, **Anselm Paulus**, Marin Vlastelica P., Claudio Michaelis, and Georg Martius  
CVPR 2020 (Oral, best paper award nomination)
8. [Deep Graph Matching via Blackbox Differentiation of Combinatorial Solvers](#) [code]  
Michal Rolínek, Paul Swoboda, Dominik Zietlow, **Anselm Paulus**, Vít Musil, and Georg Martius  
ECCV 2020

## Open Source Repositories

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0.6k+ GitHub stars across all repositories.

- |   |      |
|---|------|
| 1. <a href="#">a-paulus/softjax</a> — ★0 — <i>Softjax (library for differentiable operations in JAX)</i>                              | 2025 |
| 2. <a href="#">facebookresearch/advprompter</a> — ★162 — <i>AdvPrompter (Adversarial attacks on LLMs)</i>                             | 2025 |
| 3. <a href="#">martius-lab/diffcp-lpgd</a> — ★2 — <i>Lagrangian Proximal Gradient Descent (now merged into <a href="#">CVXPY</a>)</i> | 2024 |
| 4. <a href="#">martius-lab/solver-differentiation-identity</a> — ★10 — <i>Blackbox Identity Differentiation</i>                       | 2023 |
| 5. <a href="#">martius-lab/CombOptNet</a> — ★72 — <i>CombOptNet</i>   | 2021 |
| 6. <a href="#">martius-lab/blackbox-deep-graph-matching</a> — ★88 — <i>Deep Graph Matching</i>  | 2020 |
| 7. <a href="#">martius-lab/blackbox-backprop</a> — ★346 — <i>Blackbox Differentiation</i>   | 2020 |

## Invited Talks

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1. *AdvPrompter: Fast Adaptive Adversarial Prompting for LLMs* — Masaryk University, Brno, Czechia 2024
2. *On differentiable combinatorial optimization* — [Dagstuhl Seminar: Machine Learning and Logical Reasoning: The New Frontier](#) 2022

## Professional Activities

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Reviewing.....

International Conference on Learning Representations (ICLR): 2022, 2023, 2024, 2025

International Conference on Machine Learning (ICML): 2022, 2023, 2024, 2025

Neural Information Processing Systems (NeurIPS): 2021, 2022, 2025

Neural Information Processing Systems (NeurIPS) DiffCoAlg Workshop: 2025

## Skills

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Programming	C++, Java, Python
Frameworks	JAX, NumPy, Pandas, PyTorch, SciPy, TensorFlow
Toolbox	Linux, emacs, git, tmux, zsh, uv, vscode