Aditya **Mohan**

PhD Candidate in Reinforcement Learning at Leibniz University Hannover

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🤖 *RL researcher with Prof. Dr. Marius Lindauer at Leibniz University Hannover (LUH)*
🤝 *Founding member of autorl.org*
⚡ *Focus on Generalization and State Abstractions in RL, Meta-RL, and AutoRL*

Academic Career

Leibniz University Hannover — *Hannover, Germany*
Researcher and PhD Candidate — *Since Oct 2021*

- **Topic:** Generalization in Reinforcement Learning, Meta-Learning and Algorithm Configuration
- **Supervisor:** Prof. Marius Lindauer

Learning and Intelligent Systems Group — *Berlin, Germany*
Research Intern — *Oct 2020 - Dec 2020*

- **Topic:** Plan-Conditioned Policies for Sample-Efficient RL
- **Supervisor:** Ingmar Schubert, Prof. Marc Toussaint

Education

Technical University of Berlin & EURECOM — *Berlin, Germany*
M.Sc. in Autonomous Systems — *2019 - 2021*

- **Thesis:** RL agents that quickly adapt to a partner for Ad-Hoc cooperation in the game of Hanabi (Grade 1.0)
- **Supervisor:** Prof. Klaus Obermayer

Manipal Institute of Technology — *Karnataka, India*
B.Tech. in Electronics and Communication Engineering — *2013 - 2016*

- **Thesis:** Development of Software for Autonomous Driving Support (Grade 1.0)
- **Supervisor:** Dr. S. Bhat M

Publications

Google Scholar DBLP 0000-0001-5561-5908

11 peer-reviewed publications – h-index 6 – i10 index 5

Journal & Conference Publications

1. **Aditya Mohan**, Amy Zhang, and Marius Lindauer. "Structure in Deep Reinforcement Learning: A Survey and Open Problems". In: *Journal of Artificial Intelligence Research*. 2024.
2. Carolin Benjamins, Georgina Cenikj, Ana Nikolij, **Aditya Mohan**, Tome Eftimov, and M. Lindauer. "Instance Selection for Dynamic Algorithm Configuration with Reinforcement Learning: Improving Generalization". In: *The Genetic and Evolutionary Computation Conference* (2024).
3. Alexander Tornede, Difan Deng, Theresa Eimer, Joseph Giovanelli, **Aditya Mohan**, Tim Ruhkopf, Sarah Segel, Daphne Theodorakopoulos, Tanja Tornede, Henning Wachsmuth, and Marius Lindauer. "AutoML in the Age of Large Language Models: Current Challenges, Future Opportunities and Risks". In: *Transactions on Machine Learning Research* (2024).
4. **Aditya Mohan***, Carolin Benjamins*, Konrad Wienecke, Alexander Dockhorn, and Marius Lindauer. "AutoRL Hyperparameter Landscapes". In: *Proceedings of the Second International Conference on Automated Machine Learning*. 2023.
5. Carolin Benjamins*, Theresa Eimer*, Frederik Schubert, **Aditya Mohan**, Sebastian Döhler, Andre Biedenkapp, Bodo Rosenhahn, Frank Hutter, and Marius Lindauer. "Contextualize Me - The Case for Context in Reinforcement Learning". In: *Transactions on Machine Learning Research* (2023).

6. Mohammed Loni*, **Aditya Mohan***, Mehdi Asadi, and Marius Lindauer. "Learning Activation Functions for Sparse Neural Networks". In: *Proceedings of the Second International Conference on Automated Machine Learning*. 2023.

7. Tim Ruhkopf, **Aditya Mohan**, Difan Deng, Alexander Tornede, Frank Hutter, and Marius Lindauer. "MASIF: Meta-learned Algorithm Selection using Implicit Fidelity Information". In: *Transactions on Machine Learning Research* (2023).

Workshop & Preprints

1. Dennis Jabs *, **Aditya Mohan** *, and Marius Lindauer. "Moments Matter: Stabilizing Policy Optimization using Return Distributions". In: *2025 Multi-disciplinary Conference on Reinforcement Learning and Decision Making (RLDM 2025)*. 2025.

2. **Aditya Mohan** and Marius Lindauer. "Towards Enhancing Representations in Reinforcement Learning using Relational Structure". In: *17th European Workshop on Reinforcement Learning (EWRL 2024)*. 2024.

3. Jannis Becktepe, Julian Dierkes, Carolin Benjamins, **Aditya Mohan**, David Salinas, Raghu Rajan, Frank Hutter, Holger Hoos, Marius Lindauer, and Theresa Eimer. "ARLBench: Flexible and Efficient Benchmarking for Hyperparameter Optimization in Reinforcement Learning". In: *17th European Workshop on Reinforcement Learning (EWRL 2024)*. 2024.

4. **Aditya Mohan**, Amy Zhang, and Marius Lindauer. "A Patterns Framework for Incorporating Structure in Deep Reinforcement Learning". In: *16th European Workshop on Reinforcement Learning (EWRL 2023)*. 2023.

5. **Aditya Mohan**, Tim Ruhkopf, and Marius Lindauer. "Towards Meta-learned Algorithm Selection using Implicit Fidelity Information". In: *ICML 2022 Workshop Adaptive Experimental Design and Active Learning in the Real World (ReALML 2022)*. 2022.

Honors & Awards

Dec 2024	**Featured Publication in the Binare Magazine for excellent AI research**, https://www.l3s.de/magazine/	*Hannover, Germany*
Oct 2024	**Best Publication Award – L3S**, For our JAIR paper "Structure in Deep Reinforcement Learning: A Survey and Open Problems"	*Hannover, Germany*

Organising

AutoML School 2024 — *Hannover, Germany*
Organiser — *Sept 2024*

Keynote by Chelsea Finn: Meta-Learning for Education — *Baltimore, MA, USA*
Moderator — *Jul 2022*

DAC4AutoML Competition at AutoML Conference 2022 — *Baltimore, MA, USA*
Organiser — *Jul 2022*

Public Outreach

Dec 2024	**CAIRNE Rising Researchers Network**, Organizing collaboration between Industry and Academia at a pan european level
Oct 2024	**Winner – Haus der Wissensschaft Science Slam**, Popular Science Communication Format
Sep 2024	**Meet the Scientist**, Interacting with School Students about AI
Sep 2024	**AutoML Conf Non-Traditional Content**, Musical Parody "On the Dangers of Grid Search"
July 2024	**AI Grid Science Slam**, Popular Science Communication Format, Second Place in Audience Voting
Nov 2023	**Nacht der Wissenschaft**, University Science Night: RL for all ages

Research Visits

Mar 2025	**Prof. Georg Martius at University of Tübingen**, Representation Learning from action-free video data for Downstream Control and RL	*Tübingen, Germany*
Jul 2023, Jul 2024	**Dr. Tome Eftimov at Jožef Stefan Institute**, Dynamic Algorithm Configuration using RL	*Ljubljana, Slovenia*

Committees

Since 2024	**Member**, Hiring Committee of the Faculty of Computer Science	*Leibniz Universität Hannover*

Reviewing

JAIR (2024), NeurIPS (2023), ICML (2022), AutoML Conf (2022, 2023, 2024), EWRL (2023, 2024), ICLR (2022, 2023), ICLR Tiny Papers (2023, 2024)

Teaching

Oct 2024 - Feb 2025	**Reinforcement Learning Project: Robotics**, Graduate level project course: Course development & Co-Lecturer
Oct 2022 - Feb 2024	**Reinforcement Learning**, Graduate lecture: Creation and grading of exercises & final project. Teaching concepts for virtual, hybrid, and in-person versions of the course, *Teaching evaluation: 1.5*
Apr 2022 - Jul 2022	**Reinforcement Learning Seminar**, Graduate lecture: Creation and grading of exercises & final project. Teaching concepts for virtual, hybrid, and in-person versions of the course, *Teaching evaluation: 1.0*

Mentoring

Since Oct 2024	**Jan Malte Töpperwein (ML Project)**, Hyperparameter Landscapes of Self-supervised Reinforcement Learning
Since Apr 2024	**Tim Grunwald (ML Project, M.Sc Thesis)**, Prior-fitted Reinforcement Learning for Algorithm Selection
Feb 2024 - Aug 2024	**Dimitrios Timoleon (M.Sc Thesis)**, Enhancing Reinforcement Learning using Transformer-based Self-Predictive Representations
Feb 2024 - Aug 2024	**Dennis Jabs (M.Sc Thesis)**, Improving Policy Optimization Using Return Landscapes
Since Jun 2023	**Wladislaw Petscherski (B.Sc Thesis, ML Project)**, Activation Functions for Transfer-learning in Reinforcement Learning
Jan 2023 - May 2023	**Lingxiao Kong (M.Sc Thesis)**, Impact of Hyperparameters on Sim2Real Transfer in Reinforcement Learning
Oct 2022 - Mar 2023	**Konrad Wienecke (M.Sc Thesis)**, Dynamic Hyperparameter Landscapes in Reinforcement Learning

Software

Since 2023	**Head Developer**, **Mighty** MetaRL library
Since 2021	**Developer**, **CARL**, Benchmark for contextual reinforcement learning, 127 stars on GitHub

References

Prof. Marius Lindauer (PhD Supervisor, Leibniz University Hannover),
Contact E-Mail: m.lindauer@ai.uni-hannover.de
Prof. Amy Zhang (Collaborator, University of Texas at Austin),
Contact E-Mail: amy.zhang@austin.utexas.edu