

Curriculum Vitae

Personal Data

Name	Jan Maly
Current Position	Postdoc
Official Address	Database and Artificial Intelligence Group Institute for Logic and Computation TU Wien, Vienna, Austria
Research Areas	Computational Social Choice, Preference Representation, Logic
Website	https://www.janmaly.de

Academic Positions

since 5/2023	Principal Investigator Project: “A holistic analysis of participatory budgeting” funded by FWF (J-4581) Institute for Logic and Computation, TU Wien
9/2021 – 4/2023	Erwin Schrödinger Fellow Institute for Logic, Language and Computation, University of Amsterdam
9/2020 – 8/2021	Main responsible project assistant Project: “Algorithms for Sustainable Group Decision Making” funded by FWF (P31890), PI Martin Lackner Institute for Logic and Computation, TU Wien
9/2016 – 8/2020	University assistant Institute for Logic and Computation, TU Wien

Higher Education

11/2016 – 9/2020	Doctoral studies in Computer Science Graduated as Doctor Technicae with distinction TU Wien, supervised by Stefan Woltran and Martin Lackner Thesis: “Ranking Sets of Objects: How to Deal with Impossibility Results”
10/2013 – 8/2016	Master in Mathematics with specialization in Logic Graduated as Master of Science with distinction University of Vienna Thesis: “Jan Krajíček’s Forcing Construction and Pseudo Proof Systems”
10/2009 – 9/2013	Bachelor in Mathematics with minor subject Philosophy Graduated as Bachelor of Science with distinction Julius-Maximilians-Universität Würzburg Thesis: “Unvollständigkeit und Unentscheidbarkeit”

Research Grants

2021 Erwin Schrödinger Fellowship
Project: “A holistic analysis of participatory budgeting”,
Funded by FWF under project number J-4581
Period: 9/2021 – 4/2024
Grant Size: 149,440€

Supervisor

PhD Thesis Simon Rey (co-supervisor), Michael Bernreiter (co-supervisor, ongoing)
Master Thesis Thomas klein Goldewijk (co-supervision with Davide Grossi), Michael Bernreiter (co-supervisor)
Bachelor Thesis Kai Knauf, Stefan Forster, Pierre Mugisha

Teaching Experience

3/2023 – 9/2023 Preferences in Artificial Intelligence
Lecturer
2/2022 – 3/2022 Complexity Theory
Lecturer
3/2021 – 9/2021 Preferences in Artificial Intelligence
Lecturer
2/2018 – 9/2020 Algorithms and Data Structures
Teaching assistant, 8h per week
9/2016 – 2/2018 Data Modeling
Teaching assistant, 8h per week
4/2015 – 7/2015 Complexity Theory
Tutor, 10h per week

Research Visits

17/11/2019 – 1/12/2019 Ulle Endriss, COMSOC Group, University of Amsterdam
04/11/2018 – 18/11/2019 Mirosław Truszczyński, University of Kentucky
16/03/2017 – 09/04/2017 Mirosław Truszczyński, University of Kentucky

Other Activities

Co-Founder	European Network for Digital Democracy (Eddy)
Organizer	First Vienna Workshop on Computational Social Choice
PC member	AAAI 2024, IJCAI 2023, ECAI 2023, AAMAS 2023, PRIMA 2022, IJCAI 2022, AAMAS 2022, AAAI 2022, IJCAI 2021, AAMAS 2021, AAAI 2021,
Reviewer	Journal of Artificial Intelligence Research (JAIR), Journal of Mathematical Psychology, SN Computer Science, Autonomous Agents and Multi-Agent Systems (JAAMAS)
Subreviewer	JELIA 2021, IJCAI 2020, KI 2020, SAGT 2019, IEA/AIE-2019, STACS 2019, ICLP 2018

Publications

Preprints

- [1] Simon Rey and Jan Maly. “The (Computational) Social Choice Take on Indivisible Participatory Budgeting”. In: *ArXiv* 2303.00621 (2023).

Conference Papers

- [1] Martin Lackner, Jan Maly, and Oliviero Nardi. “Free-Riding in Multi-Issue Decisions”. In: *Proceedings of the Twenty-Second International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2023)*. 2023, pp. 2040–2048.
- [2] Jan Maly, Simon Rey, Ulle Endriss, and Martin Lackner. “Fairness in Participatory Budgeting via Equality of Resources”. In: *Proceedings of the Twenty-Second International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2023)*. 2023, pp. 2031–2039.
- [3] Markus Brill, Stefan Forster, Martin Lackner, Jan Maly, and Jannik Peters. “Proportionality in Approval-Based Participatory Budgeting”. In: *Proceedings of the Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI 2023)*. AAAI Press, 2023, pp. 5524–5531.
- [4] Martin Lackner and Jan Maly. “Proportional Decisions in Perpetual Voting”. In: *Proceedings of the Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI 2023)*. AAAI Press, 2023, pp. 5722–5729.
- [5] Michael Bernreiter, Anela Lolic, Jan Maly, and Stefan Woltran. “Sequent Calculi for Choice Logics”. In: *Proceedings of the Eleventh International Joint Conference on Automated Reasoning (IJCAR 2022)*. Springer, 2022, pp. 331–349.
- [6] Jiehua Chen, Martin Lackner, and Jan Maly. “Participatory Budgeting with Donations and Diversity Constraints”. In: *Proceedings of the Thirty-Sixth AAAI Conference on Artificial Intelligence (AAAI 2022)*. 9323–9330. AAAI Press, 2022.
- [7] Martin Lackner, Jan Maly, and Simon Rey. “Fairness in Long-Term Participatory Budgeting”. In: *Proceedings of the Thirtieth International Joint Conference on Artificial Intelligence (IJCAI 2021)*. ijcai.org, 2021, pp. 299–305.

- [8] Michael Bernreiter, Jan Maly, and Stefan Woltran. “Choice Logics and Their Computational Properties”. In: *Proceedings of the Thirtieth International Joint Conference on Artificial Intelligence (IJCAI 2021)*. ijcai.org, 2021, pp. 1794–1800.
- [9] Martin Lackner and Jan Maly. “Approval-Based Shortlisting”. In: *Proceedings of the Twentieth International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2021)*. ACM, 2021, pp. 737–745.
- [10] Martin Lackner, Jan Maly, and Simon Rey. “Fairness in Long-Term Participatory Budgeting”. In: *Proceedings of the Twentieth International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2021)*. Extended Abstract. ACM, 2021, pp. 1566–1568.
- [11] Jan Maly and Johannes P. Wallner. “Ranking Sets of Defeasible Elements in Preferential Approaches to Structured Argumentation: Postulates, Relations, and Characterizations”. In: *Proceedings of the Thirty-Fifth AAAI Conference on Artificial Intelligence (AAAI 2021)*. AAAI Press, 2021, pp. 6435–6443.
- [12] Jan Maly. “Lifting Preferences over Alternatives to Preferences over Sets of Alternatives: The Complexity of Recognizing Desirable Families of Sets”. In: *Proceedings of the Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI 2020)*. AAAI Press, 2020, pp. 2152–2159. DOI: 10.1609/aaai.v34i02.5590.
- [13] Jan Maly, Mirosław Truszczyński, and Stefan Woltran. “Preference Orders on Families of Sets - When Can Impossibility Results Be Avoided?” In: *Proceedings of the Twenty-Seventh International Joint Conference on Artificial Intelligence (IJCAI 2018)*. ijcai.org, 2018, pp. 433–439. DOI: 10.24963/ijcai.2018/60.

Journal Papers

- [1] Martin Lackner and Jan Maly. “Approval-Based Shortlisting”. In: *Social Choice and Welfare* (2023).
- [2] Michael Bernreiter, Jan Maly, and Stefan Woltran. “Choice Logics and Their Computational Properties”. In: *Artificial Intelligence* (2022), 311: 103755.
- [3] Jan Maly. “Ranking Sets of Objects: The Complexity of Avoiding Impossibility Results”. In: *Journal of Artificial Intelligence Research (JAIR)* 73 (2022), pp. 1–65. DOI: 10.1613/jair.1.13030.
- [4] Jan Maly, Mirosław Truszczyński, and Stefan Woltran. “Preference Orders on Families of Sets - When Can Impossibility Results Be Avoided?” In: *Journal of Artificial Intelligence Research (JAIR)* 66 (2019), pp. 1147–1197. DOI: 10.1613/jair.1.11879.
- [5] Jan Maly and Moritz Müller. “A remark on pseudo proof systems and hard instances of the satisfiability problem”. In: *Mathematical Logic Quarterly* 64.6 (2018), pp. 418–428. DOI: 10.1002/malq.201700009.
- [6] Jan Maly and Stefan Woltran. “Ranking Specific Sets of Objects”. In: *Datenbank-Spektrum* 17.3 (2017), pp. 255–265. DOI: 10.1007/s13222-017-0264-7.

Workshop Papers

- [1] Markus Brill, Stefan Forster, Martin Lackner, Jan Maly, and Jannik Peters. “Proportionality in Approval-Based Participatory Budgeting”. In: *The Ninth International Workshop on Computational Social Choice (COMSOC-2021)*. Accepted for oral presentation. 2023.
- [2] Jan Maly, Simon Rey, Ulle Endriss, and Martin Lackner. “Effort-Based Fairness for Participatory Budgeting”. In: *Thirteenth Multidisciplinary Workshop on Advances in Preference Handling (MPREF)*. 2022.
- [3] Martin Lackner and Jan Maly. “Perpetual Voting: The Axiomatic Lens”. In: *The Eighth International Workshop on Computational Social Choice (COMSOC-2021)*. Accepted for oral presentation. 2021.
- [4] Michael Bernreiter, Jan Maly, and Stefan Woltran. “Encoding Choice Logics in ASP”. In: *Proceedings of the 13th Workshop on Answer Set Programming and Other Computing Paradigms, affiliated with the 36th International Conference on Logic Programming, AAAI Press, 2020*, pp. 2152–2159.
- [5] Clemens Gangl, Martin Lackner, Jan Maly, and Stefan Woltran. “Aggregating Expert Opinions in Support of Medical Diagnostic Decision-Making”. In: *Knowledge Representation for Health Care/ProHealth, KR4HC 2019*. Position Paper. 2019, pp. 56–62.
- [6] Jan Maly and Stefan Woltran. “A New Logic for Jointly Representing Hard and Soft Constraints”. In: *The Second Workshop on Logics for Reasoning about Preferences, Uncertainty, and Vagueness, PRUV@IJCAR 2018*. Vol. 2157. CEUR Workshop Proceedings. CEUR-WS.org, 2018.
- [7] Jan Maly and Stefan Woltran. “Ranking Specific Sets of Objects”. In: *Datenbanksysteme für Business, Technologie und Web (BTW 2017), 17. Fachtagung des GI-Fachbereichs „Datenbanken und Informationssysteme“ (DBIS), Workshopband*. Vol. P-266. LNI. GI, 2017, pp. 193–201.