

Matteo Bortoletto

Ph.D. Student at the University of Stuttgart

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EDUCATION

Johns Hopkins University, USA , Visiting Graduate Scholar Advisor: Tianmin Shu	2025
University of Stuttgart, Germany , Ph.D. in Computer Science Advisor: Andreas Bulling	2022 - Present
University of Padua, Italy , M.Sc. in Physics of Data, <i>cum laude</i> Advisor: Marco Baiesi	2019 - 2021
University of Padua, Italy , B.Sc. in Physics Advisor: Samir Suweis	2016 - 2019

PUBLICATIONS


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- Matteo Bortoletto**, Constantin Ruhdorfer, Lei Shi, Andreas Bulling. "Explicit Modelling of Theory of Mind for Belief Prediction in Nonverbal Social Interactions." In *Proceedings of the 27th European Conference on Artificial Intelligence (ECAI)*, 2024. (Oral)
- Constantin Ruhdorfer, **Matteo Bortoletto**, Anna Penzkofer, Andreas Bulling. "The Overcooked Generalisation Challenge." *arXiv:2406.17949*, 2024.
- Matteo Bortoletto**, Constantin Ruhdorfer, Lei Shi, Andreas Bulling. "Benchmarking Mental State Representations in Language Models." In *ICML Workshop on Mechanistic Interpretability*, 2024.
- Matteo Bortoletto**, Constantin Ruhdorfer, Adnen Abdessaied, Lei Shi, Andreas Bulling. "Limits of Theory of Mind Modelling in Dialogue-Based Collaborative Plan Acquisition." In *Proceedings of the 62nd Annual Meeting of the Association for Computational Linguistics (ACL)*, 2024.
- Matteo Bortoletto**, Lei Shi, Andreas Bulling. "Neural Reasoning About Agents' Goals, Preferences, and Actions." In *Proceedings of the 38th AAAI Conference on Artificial Intelligence (AAAI)*, 2024.
- Ekta Sood, Lei Shi, **Matteo Bortoletto**, Yao Wang, Philip Müller, Andreas Bulling. "Improving neural saliency prediction with a cognitive model of human visual attention." In *Proceedings of the Annual Meeting of the Cognitive Science Society (CogSci)*, 2023.
- Guanhua Zhang, **Matteo Bortoletto**, Zhiming Hu, Lei Shi, Mihai Băce, Andreas Bulling. "Exploring Natural Language Processing Methods for Interactive Behaviour Modelling." In *Proceedings of Conference on Human-Computer Interaction (INTERACT)*, 2023. 🏆 Best Student Paper Nomination

TEACHING EXPERIENCE

Course Organiser , Machine Perception and Learning	WS 2024
Course Organiser and Lecturer , Computational Theory of Mind and Cognition	SS 2024
Teaching Assistant , Machine Perception and Learning	SS 2022, WS 2022, WS 2023

MENTORING


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- Levi Otterbach**, B.Sc. Thesis: "Neural Reasoning with Cognitively-Inspired Representations"
- Jonas Allali**, M.Sc. Thesis: "Probing for Theory of Mind in the Multi-Agent Cooperation Game Yokai"
- Jann-Philipp Thewes**, M.Sc. Thesis: "Multimodal LLM for Theory of Mind Modelling in Collaborative Tasks"
- Ruben Werbkke**, B.Sc. Thesis: "Inferring Other Agents' Goal in Collaborative Environments Using Graphs"

Constantin Ruhdorder, M.Sc. Thesis: “Into the Minds of the Chefs: Using Theory of Mind for Robust Collaboration with Humans in Overcooked”  Rul Gunzenhäuser Award
John Pravin Arockiasamy, M.Sc. Research Project: “Transformer Based Architecture for Belief Prediction in Object-Context Scenarios”
Michael Erdemann, M.Sc. Thesis: “Recreating False-Belief Tests as Visual Question Answering Tasks”

WORK EXPERIENCE

University of Padua , Research Fellow	<i>Mar 2021 - May 2021</i>
Piratech , Software Developer Intern	<i>Mar 2021 - May 2021</i>


SERVICES

Reviewer: CHI’24, CHI’25, ACL ARR’25, TOCHI
Student Volunteer: AAAI’24 , ACL’24

AWARDS

Volunteer Scholarship AAAI’24, ACL’24	
Best Student Paper Nomination INTERACT 2023	
StartCup Veneto Start up competition winner, TooBusy	<i>2021</i>
Research Grant , University of Padua, “Urban Big Data for Economic Development”	<i>2021</i>

EVENTS AND PRESENTATIONS

ELLIS CoGenAI Summer School (Aalto University, Finland) 	<i>2024</i>
ELLIS Unit Stuttgart Summer Symposium	<i>2024</i>
ELLIS Unit Stuttgart Kickoff Symposium	<i>2023</i>
Dagstuhl Seminar on Anticipatory Human-Machine Interaction	<i>2022</i>

SKILLS

Languages: English (fully proficient), Italian (native), Spanish (basic), German (basic)
Programming: Python, PyTorch, Huggingface, NNSight
Software & Tools: Linux, MacOS, Git, L^AT_EX, Microsoft Suite
Hobbies and activities: Watercolour painting, playing the guitar, swimming, bodyweight exercise