

# Matteo Bortoletto

Ph.D. Student at the University of Stuttgart

[matteo.bortoletto@vis.uni-stuttgart.de](mailto:matteo.bortoletto@vis.uni-stuttgart.de) ♦ [Website](#) ♦ [GitHub](#) ♦ [Google Scholar](#) ♦ [LinkedIn](#)

## EDUCATION

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<b>University of Stuttgart, Germany</b> Ph.D. in Computer Science Advisor: Andreas Bulling	2022 - Present
<b>University of Padua, Italy</b> M.Sc. in Physics of Data, <i>cum laude</i> Advisor: Marco Baiesi	2019 - 2021
<b>University of Padua, Italy</b> B.Sc. in Physics Advisor: Samir Suweis	2016 - 2019

## RESEARCH & WORK EXPERIENCE

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<b>University of Stuttgart, Stuttgart, Germany</b> <i>Scientific Researcher</i> – Conducted research at the CAI group, with a focus on Machine Theory of Mind and large foundation models. Published <b>9 papers at top AI venues</b> (AAAI, ACL, EMNLP, TMLR, ECAI), plus 2 preprints currently under review.	2022 - Present
<b>Johns Hopkins University, Baltimore, USA</b> <i>Visiting Graduate Scholar</i> – Conducted research at the SCAI Lab, leading a project with collaborators from JHU, Harvard, MIT, and PKU. Focus: Bayesian Inverse Planning, Large Language and Reasoning models.	2025
<b>Piritech, Kingston Upon Thames, London, England (Remote)</b> <i>Research Intern</i> – Awarded a research fellowship from the University of Padua to work on the project “Urban Big Data for Economic Development”.	2021

## PEER-REVIEWED PUBLICATIONS

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1. [M. Bortoletto](#), C. Ruhdorfer, A. Bulling. “ToM-SSI: Evaluating Theory of Mind in Situated Social Interactions.” **EMNLP 2025**.
  2. [M. Bortoletto](#), C. Ruhdorfer, L. Shi, A. Bulling. “Brittle Minds, Fixable Activations: Understanding Belief Representations in Language Models.” **EMNLP 2025 Findings** and **ICML 2024 Workshop on Mechanistic Interpretability**.
  3. C. Ruhdorfer, [M. Bortoletto](#), A. Penzkofer, A. Bulling. “The Overcooked Generalisation Challenge.” **TMLR**, 2025.
  4. C. Ruhdorfer, [M. Bortoletto](#), A. Bulling. “The Yokai Learning Environment: Tracking Beliefs Over Space and Time.” **IJCAI 2025 Workshop on Theory of Mind**. (Oral)
  5. [M. Bortoletto](#), C. Ruhdorfer, L. Shi, A. Bulling. “Explicit Modelling of Theory of Mind for Belief Prediction in Nonverbal Social Interactions.” **ECAI 2024**. (Oral)
  6. [M. Bortoletto](#), C. Ruhdorfer, A. Abdessaied, L. Shi, A. Bulling. “Limits of Theory of Mind Modelling in Dialogue-Based Collaborative Plan Acquisition.” **ACL 2024**.
  7. [M. Bortoletto](#), L. Shi, A. Bulling. “Neural Reasoning About Agents’ Goals, Preferences, and Actions.” **AAAI 2024**.
  8. E. Sood, L. Shi, [M. Bortoletto](#), Y. Wang, P. Müller, A. Bulling. “Improving neural saliency prediction with a cognitive model of human visual attention.” **CogSci 2023**.
  9. G. Zhang, [M. Bortoletto](#), Z. Hu, L. Shi, M. Bâce, A. Bulling. “Exploring Natural Language Processing Methods for Interactive Behaviour Modelling.” **INTERACT 2023**. 🏆 **Best Student Paper Nomination**

## ACADEMIC SERVICES

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**Mentoring:** Supervised 8 B.Sc/M.Sc theses, including one  *Rul Gunzenhäuser Award* winner  
**Teaching:** “Machine Perception and Learning” (teaching assistant/course organiser), “Computational Theory of Mind and Cognition” (course organiser & lecturer)  
**Reviewer:** CHI’24, CHI’25, ACL ARR’25, TOCHI, UIST’25, AAAI’26  
**Student Volunteer:** AAAI’24, ACL’24, EMNLP’25

## AWARDS

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**Volunteer Scholarship:** AAAI’24, ACL’24, EMNLP’25  
**Best Student Paper Nomination,** INTERACT 2023  
**Winner Startup,** StartCup Veneto, TooBusy 2021  
**Research Grant,** University of Padua, “Urban Big Data for Economic Development” 2021

## EVENTS AND PRESENTATIONS

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EMNLP 2025 poster presentations 2025  
Invited talk at the SCAI Lab, Johns Hopkins University 2025  
ECAI 2024 oral presentation 2024  
ACL 2024 poster presentation 2024  
ICML 2024 poster presentation 2024  
ELLIS CoGenAI Summer School (Aalto University, Finland) 2024  
ELLIS Unit Stuttgart Summer Symposium 2024  
AAAI 2024 poster presentation 2024  
ELLIS Unit Stuttgart Kickoff Symposium 2023  
Dagstuhl Seminar on Anticipatory Human-Machine Interaction 2022

## MISCELLANEOUS

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**Nationality:** Italian  
**Languages:** English (fluent), Italian (native), Spanish (basic), German (basic)  
**Programming:** Python, PyTorch, Huggingface, NNSight, Julia  
**Software & Tools:** Linux, MacOS, Git, L<sup>A</sup>T<sub>E</sub>X, Microsoft Suite  
**Hobbies and activities:** Watercolour painting, guitar, running