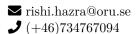
Rishi Hazra



rishihazra.github.io
Google Scholar

Education

• Ph.D. in Machine Reasoning, 2021–Present

Örebro University & WASP, Sweden

Research Topic: Reasoning & Decision Making with LLMs

Supervisor: Luc De Raedt

• M.Tech in Artificial Intelligence, 2017–2019

Indian Institute of Science, Bangalore, India

Grade: 8.10/10

Research Topic: Active Learning in Sequence Tagging

Supervisor: Ambedkar Dukkipati

• B.Tech in Electrical Engineering, 2013–2017

Birsa Institute of Technology, India

Grade: 8.03/10

Supervisor: Pankaj Kumar Rai

Research & Professional Experience

• Research Science Intern, August 2024 - February 2025

FAIR (Meta), London, UK

Topics: Language Grounding in Images, Multiagent Evolutionary Frameworks

• Research Science Intern, July 2022 – December 2022

Meta Reality Labs Research, Redmond, USA

Topic: Vision and Language-based Task Tracking

• Data Scientist, April 2020 - September 2020

Amazon Alexa-AI, Bangalore, India

Topic: NLU Metrics in Alexa

• Research Associate, June 2019 – March 2020

Statistics and Machine Learning Group, Indian Institute of Science, Bangalore

Topic: Multi-Agent Reinforcement Learning

Publications

 SAT Solving using Multi-agent Evolutionary Search with Large Language Models, <u>R Hazra</u>, D Nathani, Y Bachrach under review

2. LEXICON 1.0: a Simulator for Constrained Decision Making with Natural Language, R Hazra, PZD Martires, L De Raedt under review

3. REvolve: Reward Evolution with Large Language Models using Human Feedback, R Hazra*, A Sygkounas*, A Persson, A Loutfi, PZD Martires (* equal contribution) under review [website][pdf]

4. Can Large Language Models Reason? A Characterization via 3-SAT Phase Transitions, R Hazra, G Venturato, PZD Martires, L De Raedt under review [pdf]

5. Evaluating Efficiency and Engagement in Scripted and LLM-Enhanced Human-Robot Interactions

T Schreiter, JV Rüppel, <u>R Hazra</u>, A Rudenko, M Magnusson, AJ Lilienthal *IEEE/ACM International Conference on Human-Robot Interaction*(HRI 2025) (Late Breaking Report)

6. Bidirectional Intent Communication: A Role for Large Foundation Models,

T Schreiter*, R Hazra*, JV Ruppel, A Rudenko (* equal contribution)

Workshop at the 33nd IEEE International Conference on Robot and Human Interactive Communication (IEEE RO-MAN 2024) [pdf]

7. SayCanPay: Heuristic Planning with Large Language Models using Learnable Domain Knowledge,

R Hazra, PZD Martires, L De Raedt

Association for the Advancement of Artificial Intelligence (AAAI 2024) [website][pdf] [code]

8. EgoTV: Egocentric Task Verification from Natural Language Task Descriptions,

R Hazra, B Chen, A Rai, N Kamra, R Desai

International Conference on Computer Vision (ICCV 2023) [website] [pdf] [code]

9. Deep Explainable Relational Reinforcement Learning: A Neuro-Symbolic Approach,

R Hazra, L De Raedt

European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD 2023) [pdf]

10. Active² Learning: Actively reducing redundancies in Active Learning methods for Sequence Tagging and Machine Translation,

R Hazra, P Dutta, S Gupta, MA Qaathir, and A Dukkipati

Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT 2021) [pdf][code][video][poster]

11. Networked Multi-Agent Reinforcement Learning with Emergent Communication

S Gupta*, R Hazra*, and A Dukkipati (* Equal Contribution)

International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2020) [pdf] [video]

12. Infinite use of finite means: Zero-Shot Generalization using Compositional Emergent Protocols R Hazra*, S Dixit*, and S Sen (* Equal Contribution)

Visually Grounded Interaction and Language Workshop (NAACL-HLT 2021) [pdf] [demos] [poster]

13. gComm: An environment for investigating generalization in Grounded Language Acquisition R Hazra and S Dixit,

Visually Grounded Interaction and Language Workshop (NAACL-HLT 2021) [pdf] [code] [poster]

Mentorship

Master Thesis

• Jens V Rüppel, TU Chemnitz, 2024-2025 (Co-supervisor: Tim Schreiter)

Skills

Python, PyTorch, MATLAB, C++

Achievements

Top Reviewer NeurIPS 2022, NeurIPS 2024 (Top 8%)

Guinness World Record Most users to complete a remote 10 km in 24 hours [record][certificate]

Kaggle 2^{nd} Rank in secondary track of (PASSNYC)

GATE 2017 All India Rank 133 (top 0.001%)

Undergrad Best Outgoing Project Award jointly from BIT Sindri & IIT (ISM) Dhanbad

Undergrad Best Academics Award for excellent academic performance High School Principal's Award for all-round academic performance

Courses/Workshops

Basic Machine Learning, Game Theory, Practical Data Science Advanced Natural Language Understanding, Reinforcement Learning,

Graphical Models & Bayesian Learning

Undergrad Signal Processing, Control Systems, Digital Electronics, Network Theory

Workshops Workshop on Neural Systems (Pratiksha Trust, IISc),

Robovision (Robotics and Computer Applications Institute, USA)

Community Service

NeurIPS 2022-24, ICML 2023-24, ICLR 2024, KR 2024, EACL 2023: Reviewer

- $\bullet\,$ AAMAS 2022: Program Committee member and Session Chair
- PRAYAAS India (NGO providing free and high quality education to underprivileged children living in slums and villages): Active member of PRAYAAS India (from 2013-2016), where I taught mathematics to middle school children.
- Tarumitra (Friend of Trees) Club: Student President of Tarumitra for three consecutive years (2011-2013), during which, I led numerous plantation drives and awareness programs.