

EDUCATION

- PhD Candidate in Computer Science,** **2022-2026**
MPI for Biological Cybernetics - Helmholtz - LMU - DeepMind, Tübingen, Munich & London
Title: “Cognitive Models of Deep Meta-Reinforcement Learning”
Primary supervisors: Dr Eric Schulz (MPI for Biological Cybernetics, Helmholtz & LMU) & Dr Jane X. Wang (Google Deepmind).
Collaborators: Professor Zeynep Akata (Helmholtz & TUM) & Professor Matthew Botvinick (Google DeepMind).
- MSc Data Science & Machine Learning, University College London, London, UK** **2020-2021**
Grade: Distinction (82.6%) & Dean’s List.
• **Research Thesis:** “Leveraging episodic memory in model-based RL” supervised by Prof. Neil Burgess and Dr. Zafeirios Fountas.
- BEng Aerospace Engineering, University of Manchester, Manchester, UK** **2015-2019**

PUBLICATIONS

- [1] **Coda-Forno, J.**, Yu, C., Guo, Q., Fountas, Z., Burgess, N. Leveraging Episodic Memory to Improve World Models for Reinforcement Learning. *Memory in Artificial and Real Intelligence (MemARI), NeurIPS workshop (2022)*.
https://memari-workshop.github.io/papers/paper_3.pdf
- [2] **Coda-Forno, J.**, Binz, M., Akata, Z., Botvinick, M JX Wang., Schulz, E. Meta-in-context learning in large language models. *Advances in Neural Information Processing Systems*, 37 (2023). <https://arxiv.org/pdf/2305.12907.pdf>
- [3] **Coda-Forno, J.**, Witte, K., Jagadish, A., Binz, M., Akata, Z., Schulz, E. Inducing anxiety in large language models increases exploration and bias (2023). <https://arxiv.org/abs/2304.11111>.
- [4] Akata, E., Schulz, L., **Coda-Forno, J.**, Oh, S., Bethge, M, Schulz, E. Playing repeated games with Large Language Models (2023).
<https://arxiv.org/pdf/2305.16867.pdf>

SUPERVISION

- **Natalia Scharfenberg:** Universität Osnabrück, Master Thesis: Using LLM’s representations for RL. **2023**

EXPERIENCE

- Visiting Research intern (10 months), UCL & Huawei, London, UK** **2021-2022**
• Collaborated with Huawei Neuromorphic Computing Group for my UCL Master’s research thesis and pursued the research further.
• Investigated how the neuroscience concept of episodic memory could be used in model-based reinforcement learning for more sample efficiency in complex tasks and environments.
• Created an episodic memory module, integrated it to the Dreamerv2 agent and tested it on Atari games using Python.
• Gained experience in JIT compilation with the use of Tensorflow2 graph’s mode for more efficient computations.
- Software Engineer Intern (12 months), Rolls-Royce Plc, Birmingham, UK** **2018-2019**

AWARDS AND CERTIFICATIONS

- **“Distinctions of the jury”** in the 14th French Olympiads of mathematics awarded by the Nice Academy. **2014**
• **Dean’s List:** top 5% of student achievement within the faculty of Engineering. **2021**

SUMMER SCHOOLS

- MIT Brains, Minds & Machines Summer Course, *Woods Hole, USA*. **2023**

SKILLS AND INTERESTS

- **Trilingual:** Native/bilingual proficiency in English, French and Spanish
• **Programming skills:** Proficient in the use of Python, NumPy, Pandas, PyTorch, Tensorflow2 and GIT - intermediate in R, Julia and SQL.
• **Interests:** Played football for the University of Manchester football team and represented the Nice Ski Federation in races in South Alps.