

Alexander Müller

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EDUCATION

University of Groningen

Bachelor of Science - Artificial Intelligence

- Relevant Courses:** Algorithms and Data Structures, Object-Oriented Programming, Linear Algebra, Statistics, (Multivariable) Calculus, Neural Networks, Reinforcement Learning, Uncertainty in Machine Learning, Analysis, Advanced Logic, Ethics in AI, Cognitive Psychology, Neuroscience, Behavioural Neuroscience
- Current Average Grade:** 8.8

Groningen, The Netherlands

Sep. 2022 - Expected June 2025

PROJECTS

- AI Safety:** 2024-present
 - AI Safety Course:** Initially completed the ‘AI Safety Fundamentals - Technical’ course organized by the AI Safety Initiative Groningen (AISIG).
 - NeurAlignment Research & Discussion Group:** Together with other passionate students (BSc-PhD), we explore how we can use our knowledge of the brain to help solve the alignment problem.
- MNIST Tutorials:** 2024
 - Python Machine Learning:** Developed a series of tutorials on building ML models using PyTorch and various other libraries to recognize handwritten digits from the MNIST dataset.
 - Structured Pipeline:** Designed the tutorials to focus on building a clean pipeline, allowing others to learn and adapt the code rapidly.
- Traffic Signal Control Simulator:** 2024
 - Reinforcement Learning:** Designed a simulator to optimize traffic light control in urban environments, using RL techniques to improve traffic flow and reduce waiting times at intersections.
 - Various RL Agents:** Implemented DQN, A2C, and a Stochastic agent to control a 2-way traffic intersection.
- Lunar Landing:** 2024
 - Reinforcement Learning:** Developed a RL model to safely land a lunar module on the moon’s surface with the Gymnasium library, implementing Q-learning, SARSA, and Deep Q-Network (DQN) with techniques like experience replay and fixed Q-targets.
- Role Playing Game:** 2023
 - Object-Oriented Programming:** Collaborated with peers to develop an RPG with a graphical interface, strictly adhering to OOP principles.
 - Model, View, Controller:** Implemented in Java, following the Model, View, Controller (MVC) design pattern.

WORKING EXPERIENCE

- Leading NeurAlignment Research & Discussion Group:** Nov. 2024 - Ongoing
 - Organizing and Coordinating:** Leading the NeurAlignment Research & Discussion group where the main focus is on exploring the intersection of neuroscience and AI to improve how AI systems align with human values.
- Mentor for First-Year Students:** Sep. 2023 - Feb. 2024; Sep. 2024 - Ongoing
 - Student Support and Guidance:** Mentored first-year AI students, assisting them in navigating the Dutch university system and adapting to student life.
- Teaching Assistant:** Sep. 2023 - Ongoing
 - Introduction to Artificial Intelligence (Sep. - Nov. 2023; Sep. - Nov. 2024):** Assisted in teaching foundational AI concepts, leading tutorials, labs, and assessments.
 - Basic Scientific Skills (Nov. 2023 - Feb. 2024; Nov. 2024 - Feb. 2025):** Supported students in developing essential scientific skills, focusing on research methodologies, data analysis, and academic writing.
 - Cognitive Psychology (Feb. - Apr. 2024):** Guided students through key cognitive psychology concepts, providing support with course materials and exam preparation.
 - Introduction to the Brain (Apr. - Jun. 2024):** Facilitated learning in the Introduction to the Brain course, covering topics related to neuroscience and its connection to AI.
- Private Tutor for High School Students:** Mar. 2019 - Feb. 2024
 - Customized Learning Plans:** Provided personalized tutoring in Mathematics, Chemistry, and Physics, developing tailored lesson plans and supporting students academically and psychologically for major exams.

SKILLS

- Languages:** Python, C, Java, R
- Frameworks:** PyTorch, Scikit-learn, Gymnasium, Pandas, NumPy, Keras
- Tools:** GIT/GitHub
- Soft Skills:** Teaching, Group Coordination, Public Speaking, Time Management
- Writing:** Excellent academic writing (C2 Cambridge certificate) and maintaining a newsletter on AI and neuroscience.