JULIUS MAYER

PhD Researcher

Machine Learning Engineer

CONTACT

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linkedin.com/in/jmayerai

microcosm.ai

github.com/SharkyBamboozle

SKILLS

- Research and Development
- Machine Learning
- Reinforcement Learning
- Large Language Models
- Physics Env Creation
- Benchmarking
- Project Management
- Teaching

CODING

- Python, C#, C++
- Tensorflow, PyTorch
- MuJoCo, Unity

LANGUAGES

- English (C2)
- German (native)

PRICES

2nd Place at the Berkeley LLM Agents Hackathon 2025 – Benchmarking Track (iVISPAR)

REFERENCE

Prof. Dr. Elia Bruni

NLP Lab, University Osnabrück

Mail: elia.bruni@uni-osnabrueck.de

PROFILE

Machine Learning Researcher with a strong foundation in Cognitive Science (B.Sc.) and Intelligent Adaptive Systems (M.Sc.). Experienced in software development for machine learning and artificial intelligence, bridging research innovation with industry application. Currently finalizing my Ph.D. dissertation and exploring new opportunities in impactful AI.

WORK EXPERIENCE

Institut of Cognitive Science, Osnabrück *2021 - present*

Ph.D. Researcher

- Designed and developed an interactive multi-modal visual-spatial reasoning benchmark (iVISPAR) to test spatial reasoning of large vision language models with Unity (Github)
- Founded and led MicrocosmAI, a research initiative focused on emergent communication and coordination in embodied multi-agent environments with MuJoCo (Github)
- Implemented a computational framework to model cortical spike synchrony, demonstrating that spike synchrony reflects the Gestalt structure of the stimulus which can be interpreted as a mechanism for prior probability estimation (Github)

Dermalog Identification Systems GmbH *2020 - 2021*

Machine Learning Engineer

- Worked on face recognition R&D, developing unsupervised face quality prediction, and conducting evaluation and benchmarking

Ibeo Automotive Systems GmbH *2019 - 2020*

AI Research Intern (Master's Thesis)

- Developed a trajectory planning actor-critic agent for autonomous driving systems and contributed to AI projects utilizing LiDAR sensors

Knowledge Technology Lab Hamburg *2016 - 2018*

Student Research Assistant

- Researched human-robot interaction scenarios (humanoid robots iCub / NICO), multisensory integration of sound and image data

EDUCATION

Intelligent Adaptive Systems (M.Sc.) *2015 - 2019*

Hamburg University

Grade: 1.5

Cognitive Science (B.Sc.) *2011 - 2015*

Osnabrück University

Grade: 1.8