

Jonas MAYER MARTINS

📍 Göttingen, Germany
🏛️ University of Göttingen



Profile

Interdisciplinary scientist and PhD candidate in Data Science, with an MSc in Physics (with distinction), and BSc degrees in Physics and Mathematics. Background in mathematical modelling and machine learning. Experienced in designing reproducible computational experiments and communicating complex results. Excited about nonlinear dynamics, computational linguistics, and everything.

Technical expertise

Modelling • nonlinear dynamics • bifurcation theory • stochastics • complex systems
Machine learning & data analysis • neural networks • language models • optimisation
Scientific computing • Python (NumPy, SciPy, PyTorch) • HPC • Linux • Git • simulations
Communication • scientific writing • peer review • technical presentations • teaching • mentoring • leading interdisciplinary research collaboration

Professional experience

- 03/2025 – current **Doctoral researcher** | *Campus Institute Data Science (CIDAS), University of Göttingen*
- Develop and evaluate neural models for language learnability and cognitive plausibility using Python and HPC resources
 - Design reproducible large-scale computational experiments
 - Communicate results through peer-reviewed publications, conference presentations, and interdisciplinary collaborations; run public outreach
 - Teach tutorials and develop teaching materials for NLP and AI interpretability; supervise theses
 - Lead research collaborations
- 04/2024 – 03/2025 **Research scientist** | *Institute for Theoretical Physics, University of Münster*
- Developed analytical and numerical models of coherence and phase transitions in mode-locked laser systems with time-delayed feedback
 - Applied bifurcation analysis and simulations to complex systems in Python, Matlab, and C++
- 04/2023 – 03/2025 **Academic assistant** | *Center for Nonlinear Science, University of Münster*
Interdisciplinary Teaching Program on Machine Learning and AI (InterKI)
- Develop teaching materials for the didactics of AI
 - Conducted teacher training on AI

Education

- 03/2025 – current **PhD in Data Science** (Computational Linguistics), University of Göttingen
Dissertation: “Computational learnability of language”
- 09/2022 – 03/2024 **MSc in Physics**, grade 1.0 (best grade, with distinction), University of Münster
Thesis: “Excitability and memory in a time-delayed optoelectronic neuron”
- 04/2020 – 09/2022 **BSc in Mathematics**, University of Münster
- 10/2018 – 09/2021 **BSc in Physics**, University of Münster
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Selected publications

- J. Mayer Martins**, J. Jumelet, V. Priesemann, L. Beinborn. (2026).
[Vocabulary shapes cross-lingual variation of word-order learnability in language models.](#)
Association for Computational Linguistics
- J. Mayer Martins**, S. V. Gurevich, J. Javaloyes. (2024).
[Excitability and memory in a time-delayed optoelectronic neuron.](#)
Physical Review Applied, 22(2):024050

([Link to full publication list](#))

Teaching & communication

Natural-language processing and interpretability of AI (3 semesters). Didactics of machine learning (3 semesters). Supervision of student theses (3). Teacher training on AI for a secondary school. Invited talks (4) and conference presentations in physics (7) and data science (7).

Awards & funding

- 2025 *BabyLM Challenge award*, shared task at EMNLP 2025
- 2025 *PhD scholarship offer (declined)*, Studienstiftung des Deutschen Volkes
- 2018 – 2024 *Scholarship*, Studienstiftung des Deutschen Volkes
- 2022 – 2024 *Wilhelm and Else Heraeus Foundation scholarship* for four conferences
- 2021 – 2022 *Erasmus student exchange*, Aarhus University, Denmark
- 2018 *3rd prize at the first round of the Bundeswettbewerb Mathematik*
- 2018 *Best Achievement Award*, Top Graduate NRW
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Languages

German (native) • English (C2) • Spanish (C1) • French (B2) • Danish (B2)