

Jonas Mikhaeil

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Date of Birth	27 th September 1997	Email	j.mikhaeil@gmail.com
Nationality	German	Website	https://jonasmikhaeil.github.io

Education

since	M.Sc. in Physics
Nov 2020	Heidelberg University, Germany
	Current average: 1.0*
	Scholarship: German Academic Scholarship Foundation
since	M.A. in Philosophy
Nov 2020	Heidelberg University, Germany
	with a particular focus on philosophy of science and cognition, and political philosophy
Oct 2016-	B.Sc. in Physics
Jul 2020	Heidelberg University, Germany
	Bachelor thesis: 1.0
	Final average: 1.2
2008-2016	Secondary Education - Abitur at Gymnasium an der Gartenstraße
	Final average 1.0
2013-2016	Studying before Abitur -Heinrich-Heine University, Düsseldorf, Germany

*all grades are on a scale from 1 to 5 (with 1.0 being the best possible grade)

Publications & Conferences

Publications

1. Monfared, Z.*, **Mikhaeil, J.*** & Durstewitz, D. (Oct 2021). *How to train RNNs on chaotic data*. arXiv: 2110.07238 [cs.LG]. URL <https://arxiv.org/abs/2110.07238>. Submitted to *International Conference on Learning Representations* (ICLR)
2. Brenner, M.*, Bereska, L.*, **Mikhaeil, J.**, Hess, F., Monfared, Z., Kuo, P. & Durstewitz, D. (Oct 2021). *Tractable Dendritic RNNs for Identifying Unknown Nonlinear Dynamical Systems*. Submitted to *International Conference on Learning Representations* (ICLR)

*These authors contributed equally

Poster Presentations

1. *How to train RNNs on chaotic neural data*. Poster presented at the Bernstein Conference, 2021.

Scholarship

German Academic Scholarship Foundation (Studienstiftung des Deutschen Volkes)

since	Scholarship holder (awarded to fewer than 0.5% of German students)
Oct 2016	summer academies: <i>Humanitarian Epidemiology</i> , Ftan 2019; <i>How to study animal minds</i> , Leysin 2017
	seminars: <i>How is social change possible - the possibility of a post growth society</i> , Wuppertal 2018 (co-organizer, 65 participants); <i>Foundations in Mathematics - Modern Views</i> , Munich 2017

Research Experience

Time series and statistical machine learning

- Since Mar 2021** Master's thesis
in the Dept. of Theoretical Neuroscience (DurstewitzLab), CIMH, Mannheim, Germany
Research on the connection between an RNNs long-term behaviour and its loss gradients in training, and consequent development of an RNN training algorithm designed for chaotic data
- Oct 2019- Mar 2021** Central Institute for Mental Health (CIMH), Mannheim, Germany
Research assistant in the Dept. of Theoretical Neuroscience (DurstewitzLab)
Research on invariant phase-space quantities of dynamical systems with the goal of developing a new loss function for the training of sequential variational autoencoder

Particle physics

- Apr 2019- Jul 2019** Bachelor's thesis
at Deutsches Elektronen-Synchrotron DESY, Hamburg, Germany
Topological shower reconstruction in a highly granular calorimeter with optical readout
- Oct 2018** Testbeam at CERN, Geneva, Switzerland
Research assistant
Monitoring of CALICE analog hadron calorimeter for data taking at CERN's testbeam
- Jul 2018 - Sep 2018** Deutsches Elektronen-Synchrotron DESY, Hamburg, Germany
Intern in DESY's Summer Student Program
Time resolution studies of CALICE's analog hadron calorimeter at DESY's future lepton collider group
- Oct 2017 - Mar 2018** Kirchhoff-Institute for Physics, ATLAS Proton-Proton Collisions, Heidelberg, Germany
Research assistant
Embedded software development for Zynq UltraScale+ MPSoC intended for the ATLAS level-1 calorimeter trigger upgrade

Teaching Experience

- Since Oct 2021** Teaching Assistant for *Dynamical Systems Theory in Machine Learning & Data Science*
Graduate Level Course held by Prof. Daniel Durstewitz
Design and evaluation of worksheets, as well as giving tutorials consolidating the contents of the lecture

Extracurricular Activities

- Oct 2020** Course on Topological Methods in Data Analysis
Participant
- Oct 2019** EMBL Science and Society Conference "Science as Storytelling: From Facts to Fictions"
Participant
- Jul 2017 - Apr 2019** Local *Effective Altruism* group Heidelberg
Organisation including talks, preparing readings and managing discussions