

Robin Gutzen

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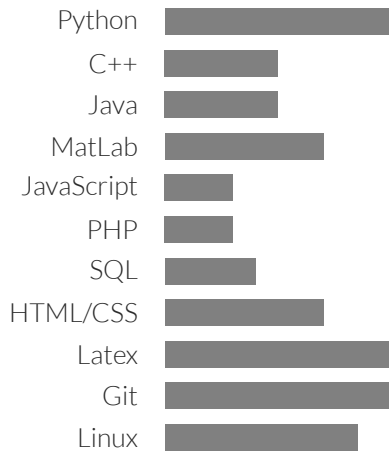
@rgutzen
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robin-gutzen

RESEARCH INTERESTS

Neural Network Dynamics
Simulation & Validation
Statistical Testing
Data Visualization
Neuromorphic Computing
Predictive Coding

SKILLS

PROGRAMMING/PLATFORMS



LANGUAGE



NON-RESEARCH INTERESTS

Climbing
Cooking
Woodworking

EDUCATION

RESEARCH CENTER JÜLICH

PHD. AT INSTITUTE FOR COMPUTATIONAL AND SYSTEMS NEUROSCIENCE
Jul 2018 - today

RWTH AACHEN UNIVERSITY

MASTER PHYSICS

Oct 2015 - Mar 2018

Major in Nanoelectronics, Minor in Biophysics

Thesis on validation of neural network simulations (@ Research Center Jülich)

Final grade 1.2

UNIVERSITÉ MONTPELLIER II

ERASMUS EXCHANGE

Sep 2013 - Jun 2014 | Montpellier, France

RWTH AACHEN UNIVERSITY

BACHELOR PHYSICS

Oct 2011 - Sep 2015

Thesis on detection and analysis of dissolved fluorescent molecules

MATARÉ GYMNASIUM.EUROPASCHULE

HIGHSCHOOL

Sep 2002 - Jul 2011

WORK EXPERIENCE

RWTH INSTITUTE 1A | RESEARCH ASSISTANT

Mar 2014 - Aug 2014

Literature research about novel materials for neuromorphic computing

EXTRACURRICULAR ACTIVITY

TEDxRWTHAACHEN CONFERENCE

ORGANISATOR AND CHAIR OF TEDxRWTHAACHEN E.V.

2016, 2017

BEBUDDY-PROGRAMM

SUPPORTING FOREIGN STUDENTS

2015-16

WORK-RELATED ACTIVITY

CONTENT CURATION

Jan 2019 - Jan 2020

Managing IT infrastructure; Support in implementing reproducible research

SERVING ON ADMISSION COMMITTEES

2018, 2019

SUPERVISING AN INTERNSHIP

Jun 2017 - Jul 2017

ACADEMIC WORK

PUBLICATIONS

- 2018 **R. Gutzen**, M. von Papen, G. Trenschi, P. Quaglio, S. Grün, M. Denker "Reproducible neural network simulations: statistical methods for model validation on the level of network activity data" *Frontiers in Neuroinformatics* 12:90, doi:10.3389/fninf.2018.00090
- 2018 G. Trenschi, **R. Gutzen**, I. Blundell, M. Denker, A. Morrison "Rigorous neural network simulations: a model substantiation methodology for increasing the correctness of simulation results in the absence of experimental validation data" *Frontiers in Neuroinformatics* 12:81, doi:10.3389/fninf.2018.00081

POSTER PRESENTATIONS

- 2019 INM ICS Retreat, Jülich
R. Gutzen, S. Grün, M. Denker "A statistical test of eigenvector angles to evaluate the similarity of neural network simulations"
- 2019 Meeting of the German Neuroscience Society, Göttingen
R. Gutzen, M. von Papen, G. Trenschi, P. Quaglio, S. Grün, M. Denker "Reproducible neural network simulations: model validation on the level of network activity data"
- 2018 Bernstein Conference, Berlin
R. Gutzen, M. von Papen, G. Trenschi, P. Quaglio, S. Grün, M. Denker "Reproducible neural network simulations: model validation on the level of network activity data"
- 2018 Human Brain Project Summit, Maastricht
A. Yegenoglu, **R. Gutzen**, M. Denker, S. Grün "Utilizing the Elephant and NetworkUnit frameworks within the Collaboratory for an HPC enabled workflow"
- 2017 Data Science Summer School, Paris
R. Gutzen, S. Grün, M. Denker "Validation Methods for Neural Network Simulations"
- 2017 INM ICS Retreat, Jülich
R. Gutzen, S. Grün, M. Denker "Validation Methods for Neural Network Simulations"

TALKS

- 2019 Human Brain Project SP3 meeting, Liège
"Building a workflow for the analysis of slow wave activity across heterogeneous measurement"
- 2019 INCF Neuroinformatics Conference, Warsaw
"Evaluating neural network models within a formal validation framework"
- 2019 Brain Twitter Conference
"How much do you trust a model? - Rigor in neuroscientific modeling and simulation through validation"
- 2019 Human Brain Project SP4 meeting, Paris
"Comparing activity dynamics of models and living brains"

LAB VISITS

- 2019 APE lab, Istituto Nazionale di Fisica Nucleare, Rome
3 weeks, working on a collaborative HBP project to integrate heterogeneous measurements within a reproducible workflow

WORKSHOPS & SCHOOLS

- 2019 2nd Data Analysis Methods (DAME) Workshop, *Hamburg*
- 2018 Data Analysis Methods (DAME) Workshop, *Karlsruhe*
- 2017 Data Science Summer School, *Paris*
- 2017 HBP BSP Hackathon, *Geneva*
- 2017 G-Node Advance Neural Data Analysis Course, *Barmen*

TUTORING

- 2019 3rd G-Node Advance Neural Data Analysis Course, *Barmen*
- 2018-19 RWTH lecture 'Introduction to Computational Neuroscience', *Aachen*

AWARDS & GRANTS

- 2019 1500€ poster price by INCF (sponsored by De Gruyter)

COMMUNITY SERVICE

- Contributing to open source software: NetworkUnit, Elephant, SciUnit, Neo
- Peer review for *Frontiers of Neuroinformatics* (2018), and *ReScience* (2019)