

# Robin Gutzen

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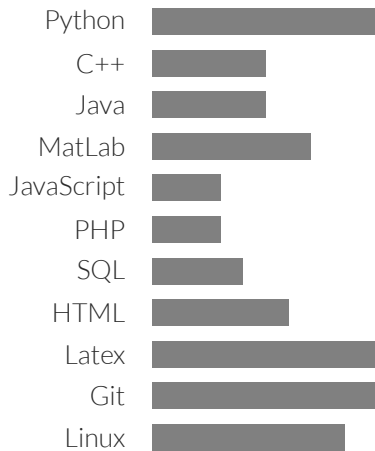
@rgutzen  
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robin-gutzen

## 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

#### ORGANISATOR

2016, 2017

### BEBUDDY-PROGRAMM

#### SUPPORTING FOREIGN STUDENTS

2015-16

# ACADEMIC WORK

## PUBLICATIONS

- 2018 **R. Gutzen**, M. von Papen, G. Trench, 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. Trench, **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. Trench, 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. Trench, 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"

## 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 RWTH lecture 'Introduction to Computational Neuroscience, Aachen

## SERVICE

- Contributing to open source software: NetworkUnit, Elephant, SciUnit
- Peer review for *Frontiers of Neuroinformatics* (2018) under the advisement of Dr. Michael Denker

## AWARDS & GRANTS

- 2019 1500€ poster prize by De Gruyter