

Rianne van den Berg

POSTDOCTORAL RESEARCHER · MACHINE LEARNING

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Work Experience

Microsoft Research Lab

VISITING RESEARCHER IN THE MACHINE INTELLIGENCE AND PERCEPTION GROUP

Research topics: generative adversarial networks, vision and language.

Cambridge, United Kingdom

May 2018 - Aug 2018

University of Amsterdam

POSTDOCTORAL RESEARCHER IN THE AMSTERDAM MACHINE LEARNING LAB

- Research topics: generative modeling, variational inference, deep learning for differential equations, graph-structured data, graphical models.
- Supervisor: Prof. Max Welling.

Amsterdam, The Netherlands

Oct. 2016 - PRESENT

Science to Data Science, Pivigo

DATA SCIENCE FELLOW

Topic: information extraction using natural language processing from financial regulations for compliance checks of client companies.

London, United Kingdom

Jul. 2016 - Aug. 2016

Education

University of Amsterdam

PHD IN THEORETICAL PHYSICS

- Thesis: Quantum collective behavior in low dimensions.
- Research topics: quantum physics, computational methods for differential equations, connecting theory to experiments.
- Supervisor: Prof. Jean-Sébastien Caux.

Amsterdam, The Netherlands

Sept. 2012 - Oct. 2016

Delft University of Technology

MSC IN APPLIED PHYSICS

- Average grade 8.5 (out of 10)
- PrePhD track
- Research project at Northwestern University, IL, USA (3 months)

Delft, The Netherlands

Sept. 2010 - Aug. 2012

Utrecht University

BSC IN PHYSICS AND ASTRONOMY

- Average grade 8.0 (out of 10), cum laude, 33.75 additional ECTS
- Honours Program of Experimental Physics and Astronomy

Utrecht, The Netherlands

Sept. 2007 - Aug. 2010

Skills

Programming/scripting languages: python, C++, bash

Deep learning frameworks: pytorch, tensorflow

Spoken Languages: Dutch (native), English (fluent), French (proficient, Diplôme approfondi de langue française C1 in 2007)

Grants & Awards

2017 **Perspectief Research Grant: Efficient Deep Learning (EDL) program**

Subsidy from The Netherlands Organisation for Scientific Research (NWO)

- Public-private research partnership in machine learning and computing.
- Includes 7 Dutch academic institutes and 35 industrial partners in- and outside the Netherlands.

Amsterdam, The Netherlands

2015 **Best poster prize**, Seminar on Isolated Quantum Many-Body Systems out of Equilibrium

Bad Honnef, Germany

2014 **Young speaker prize**, Quantum Matter & Quantum Information workshop

Amsterdam, The Netherlands

2011 **Best master student**, Casimir research school, Leiden University and Delft University of Technology

Delft, The Netherlands

Teaching

Lecturer and coordinator for MSc course Machine Learning I

MASTER'S PROGRAM OF ARTIFICIAL INTELLIGENCE, UNIVERSITY OF AMSTERDAM

6 ECTS course, 200 students, follows *Pattern Recognition and Machine Learning* by Christopher Bishop

Amsterdam, The Netherlands

2017-2018 & 2018-2019

Teaching assistant machine learning

MBA BIG DATA & BUSINESS ANALYTICS, AMSTERDAM BUSINESS SCHOOL

Amsterdam, The Netherlands

Oct. 2016 - Dec. 2016

Teaching assistant in theoretical physics

COURSES: ELECTRODYNAMICS, QUANTUM MECHANICS AND STATISTICAL PHYSICS, UNIVERSITY OF AMSTERDAM

Amsterdam, The Netherlands

2012 - 2016

Scientific Publications

- 2018 **Rianne van den Berg, Leonard Hasenclever, Jakub Tomczak, Max Welling**
Sylvester Normalizing Flows for Variational Inference
UAI 2018. Oral presentation.
- 2018 **Michael Schlichtkrull, Thomas Kipf, Peter Bloem, Rianne van den Berg, Ivan Titov, Max Welling**
Modeling Relational Data with Graph Convolutional Networks
ESWC 2018. Best student paper award.
- 2018 **Rianne van den Berg, Thomas Kipf, Max Welling**
Graph Convolutional Matrix Completion
KDD Deep Learning Day 2018.
- 2018 **Fabian Essler, Rianne van den Berg, Vladimir Gritsev**
Integrable Spin Chains with Random Interactions
arXiv:1802.08827 2018.
- 2017 **Leonard Hasenclever, Jakub Tomczak, Rianne van den Berg, Max Welling**
Variational Inference with Orthogonal Normalizing Flows
Bayesian deep learning workshop, NIPS 2017.
- 2016 **Ranko Toskovic, Rianne van den Berg, Anna Spinelli, Sebas Eliëns, Bruno van den Toorn, Ben Bryant, Jean-Sébastien Caux, Alexander Otte**
Atomic Spin Chain Realization of a Model for Quantum Criticality
Nature Physics 12 656-660 2016.
- 2016 **Rianne van den Berg, Bram Wouters, Sebas Eliëns, Jacopo De Nardis, Robert Konik, Jean-Sébastien Caux**
Separation of Timescales in a Quantum Newton's Cradle
Physical Review Letters 116 225302 2016.
- 2014 **Rianne van den Berg, Giuseppe Brandino, Omar El Araby, Robert Konik, Jean-Sébastien Caux**
Competing Interactions in Semiconductor Quantum Dots
Physical Review B 90 155117 2014.
- 2014 **Stijn De Baerdemacker, Veerle Hellemans, Rianne van den Berg, Jean-Sébastien Caux, Kristiaan Heyde, Mario Van Raemdonck, Dimitri Van Neck, Paul Johnson**
Probing Paring Correlations in Sn Isotopes Using Richardson-Gaudin Integrability
Journal of Physics: Conference Series 533 012058 2014.