

Roeland C. Wiersema

Jan van Goyenstraat 1, 6522 ES, Nijmegen, The Netherlands, born March 1st, 1994

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Education

Msc in Particle and Astrophysics

Radboud Univeristy

September 2016 - September 2019

Nijmegen, The Netherlands

Specialized in particle physics, machine learning and computational physics. This is a research master in physics and astronomy, with one year of courses and one year of research at a department of choice. Master's thesis on the topic of quantum machine learning was awarded with a 9/10 grade.

EdX course by professor Wittek on quantum machine learning.

Toronto Univeristy

Februari 2019 - April 2019

Online

Online course on implementing basic quantum circuits for machine learning purposes. Obtained a 100% score and was selected for mentoring for the next installment of this course.

Bsc in Physics and Astronomy

Radboud Univeristy

September 2012 - July 2016

Nijmegen, The Netherlands

Professional Experience

Startup data science

GraphKite

June 2017 - Present

Nijmegen, The Netherlands

Founded a company together with three fellow students for machine learning consultancy. Completed a four month assignment for a major Dutch insurance company. Currently doing a project on fall prevention for the elderly using Internet of Things devices.

Research Experience

Msc in Particle and Astrophysics

- Performed research in the interdisciplinary field of quantum machine learning.
- Wrote, tested and optimized numerical codes in Python for the mathematical model I had developed.
- Wrote an academic paper on the work of my thesis and submitted it to *Physical Review A*.
- Presented my work during meetings with other groups and participated in monthly physics seminars.
- Reproduced quantum Monte Carlo results on quantum annealing with highly optimized C code.
- Implemented a Monte Carlo algorithm that sampled photon four-vectors to calculate scattering matrices.

Bsc in Physics and Astronomy

- Implemented a machine learning model for predicting neuronal connectivity in the mouse brain as part of a three month research internship.

Startup data science

- Researched and implemented statistical risk models for an insurance company.
- Investigated signal processing methods for high frequency sensor data.

Publications

Wiersema, R.C. and Kappen, H.J., *Implementing perceptron models with qubits*, Phys. Rev. A **100**, 020301(R), 2019.

Skills and Languages

- **Programming:** Python, Cython, C/C++, T_EX, Matlab
- **Python Frameworks:** Tensorflow, QisKit, PennyLane Scikit-learn, openCV, MPI4py
- **Software:** Git, InkScape, Adobe InDesign
- **Languages:** Dutch (native speaker), English (Cambridge CAE Grade A, TOEFL score 112/120), German (mediocre)

Extracurricular activities

Educational Program Committee Physics

Radboud University

September 2017 - June 2018

Nijmegen, The Netherlands

Handled student complaints and monitored the quality of physics education.

Theory of Condensed Matter Physics application committee

Radboud University

January 2018 - May 2018

Nijmegen, The Netherlands

Assessed the teaching capabilities of the applicants for the position of assistant professor.

Biophysics application committee

Radboud University

Oktober 2019 - December 2019

Nijmegen, The Netherlands

Assessed candidates' competencies for a full professorship position.

Achievements

Deep Learning Robotics Challenge

Volkswagen Data Lab

September 2017 - November 2017

Munich, Germany

Competed with a team in a five week deep learning hackathon in Munich in 2017 and took the second place.

Kaggle data science competition

Kaggle

February 2017 - June 2017

Online

Competed with a team in two international machine learning competitions in 2017 and got two top 2% scores.

Grants

R&D joint venture grant: €164.582

Graphkite

August 2018 - Present

Nijmegen, The Netherlands

Wrote a grant proposal together with the CEO of another start-up for fall prevention for the elderly, which was awarded in December 2018.

Teaching

- Teaching assistant Nonlinear Dynamics and Chaos, 2016

- High school tutor physics and mathematics, 2016
- Tutor for first year students, 2014

Conferences

- Attended.....
- DALI/ELLIS, San Sebastian, September 2019
- Speaker.....

References

Professor H.J. Kappen

Department of Biophysics
 Radboud University
 Heyendaalseweg 135, 6525 AJ Nijmegen, The Netherlands
b.kappen@science.ru.nl

Professor J. Mentink

Department of Spectroscopy of Solids and Interfaces
 Radboud University
 Heyendaalseweg 135, 6525 AJ Nijmegen, The Netherlands
j.mentink@science.ru.nl

Professor P. van der Smagt

Volkswagen Group
 Ludwig Maximilian Universität München
 Ungererstrasse 69, 80805 München, Germany
smagt@brml.org

Other

- I enjoy listening to obscure music and playing the guitar or drums.
- I do recreational math as a hobby by solving problems on Project Euler.
- In the weekends, I play as a left back in a very mediocre football team.