

MARYSIA WINKELS

MSc Artificial Intelligence · Machine Learning R&D engineer · www.marysia.nl

PERSONAL INFORMATION

location Amsterdam, the Netherlands
email hello@marysia.nl
homepage www.marysia.nl

EDUCATION

UNIVERSITY OF AMSTERDAM

2014 – 2018 · **MSc. Artificial Intelligence**

Thesis subject: data-efficient deep learning on medical image data, supervised by Max Welling and Taco Cohen.

2011 – 2014 · **BSc. Artificial Intelligence**

Thesis subject: fair division and resource allocation, supervised by Ulle Endriss. Extra: Honours programme and minor in language philosophy.

WORK EXPERIENCE

AIDENCE

2016 – present · **Machine Learning R&D Engineer**

Aidence provides a radically new approach to computer assisted diagnosis for radiologists by utilising deep learning methods for pathology recognition. Responsibilities include extraction of semantic labels on radiological reports, development and improvement of the deep learning models and the back-end infrastructure, aiding the creation of a certified development process, and research related to client integration.

2016 – 2016 · **AI & Data Science intern**

The aim was to set up an inference pipeline for a new application. This included automatic parsing of the radiology reports to extract labels, analysing and preprocessing the 3D volumetric image data, and initial steps in implementing current state-of-the-art deep learning techniques for segmentation and classification.

MICROSOFT NL

2015 – 2016 · **Data Science intern**

Worked on an internal project as part of the data science team, and leveraged available data to generate consistently better scoring marketing strategies for the Enterprise Marketing division.

VU AMSTERDAM

2016 – 2016 · **Teaching Assistant**

Teaching Assistant for the Machine Learning course for third year BSc Lifestyle Informatics and BSc Business Analytics students at the Vrije Universiteit Amsterdam. Held Q&A sessions for each lecture, assisted the practical sessions and supervised various end projects.

UNIVERSITY OF AMSTERDAM

2013 – 2015 · **Teaching Assistant**

Teaching Assistant for various second year BSc Artificial Intelligence courses in academic year 2014/2015, and some first year BSc AI & Information Studies courses in academic year 2013/2014. Responsibilities included teaching the tutorial and practical sessions (Python, Matlab, Prolog, Java), supervising end projects, and providing feedback on homework, programming assignments and exams.

2013 – 2015 · **Tutor & Mentor**

Taught basic academic skills (e.g. presenting, scientific writing, etc.) on a weekly basis to first and second year BSc Information Studies students and as their mentor monitored their general study progress and well-being.

EXTRACURRICULAR ACTIVITIES

2018 – present · **Co-chair PyData Amsterdam**

Co-chair of committee of volunteers that organises the three-day PyData conference in Amsterdam in close collaboration with NUMfocus, the non-profit organisation behind open source projects such as NumPy, pandas, Jupyter and matplotlib. We provide a wide range of talks and tutorials related to data science of various levels for approximately 350-400 attendees. In addition to that, we also regularly organise free meet ups in collaboration with industry for audiences of 100-150 data scientists and engineers.

2013 – present · **Workshop Instructor**

Instructor at various activities aimed at promoting exact sciences, especially computer science and artificial intelligence, through workshops to children and teenagers for *Lyceo CodeLabs*, *VHTO Spiegelbeeld* and *Project Outreach*. Collaborated on devising the workshop content for Lyceo CodeLabs and DeepDivers.ai by VHTO.

2013 – 2014 · **BetaBreak committee member**

BetaBreak is an initiative by the University of Amsterdam's Faculty of Science that organises a monthly debate between experts from various backgrounds (e.g. industry, academia). As a committee member, I contributed by contacting potential speakers, preparing debate questions and occasionally leading the discussions.

SKILLS & KNOWLEDGE

Languages Python · Java · Matlab · Prolog

Technical skills Deep learning and machine learning (scikit-learn, Tensorflow, Keras, PyTorch) · data cleaning/processing (NumPy, SciPy, pandas) · data visualisation (seaborn, matplotlib)

Miscellaneous Git and version control · unit testing · command processing (bash/fish) · AWS/Azure Cloud · L^AT_EX

PUBLICATIONS

·
M. Winkels & T. S. Cohen, Pulmonary Nodule Detection with 3D G-CNNs. *Medical Image Analysis Journal*, 2019.

·
M. Winkels & T. S. Cohen, 3D Group-Equivariant Neural Networks for Octahedral and Square Prism Symmetry Groups. *ICML*, 2018. *Accepted for an oral presentation.*

M. Winkels, T. S. Cohen, M. Welling. 3D G-CNNs for Pulmonary Nodule Detection. *MIDL*, 2018. *Accepted for an oral presentation.*

M. Winkels *et al.* Challenge balancing for a kanji e-tutoring system. *BNAIC*, 2018. *Accepted for an oral presentation.*

August 19, 2019