

Career

Neural Network engineer **2015-Present**
minds.ai, California, Utrecht, Bengaluru

Neural Network engineer

Design and train NLP-NN for database text classification.

Team-lead

Coordinate development team and customer communication. Design and optimize NLP-NN for semantic search.

Software architect

Design and develop the TF++ software toolkit for TensorFlow.

Programming Teacher **2015-2017**
Software Carpentry

Python developer **2012-2016**
Leiden Observatory

Contribute to the python framework AMUSE (Astrophysical Multipurpose Software Environment) as part of PhD.

Teaching assistant **2012-2016**
Leiden Observatory

Java developer **2010-2012**
Atos, Utrecht

Develop Java applications for customers. Software design for both backend and frontend. Domain Specific Language design using Xtext.

Mathematics teacher **2008-2009**
Exam training Leiden

Education

Masters Astrophysics **2007-2009**
Astronomical Institute Utrecht

Bachelor of Science **2004-2007**
University College Utrecht

Oracle certified Java programmer **2011**
Oracle

Masterclass Java **2010**
Atos, Utrecht

Being a good software engineer, and being a good researcher, are two different things, but I have found that combining them leads to the best results. During my career, both in academia and in industry, my goal has always been to master both.

I also enjoy hiking, climbing, running, singing, playing piano, and guitar.

Research

2012-2016

PhD

Leiden Observatory

Hydrodynamical simulations of gas flows near black holes and dense stellar systems focusing on stellar wind and mass loss.

Defence: Januari 2019

Papers in preparation

- Simulating stellar wind in AMUSE.
- AMUSE simulations of the formation of the Arches cluster.

Published papers

MNRAS (2015) *Lützgendorf, van der Helm, Pelupessy, Portegies Zwart*

Stellar winds near massive black holes: The case of the S-stars.

MNRAS (2015) *van der Helm, Portegies Zwart, Pols*

Simulations of the tidal interaction and mass transfer of a star in an eccentric orbit around an intermediate-mass black hole: the case of HLX-1.

Icarus (2012) *van der Helm, Jeffers,*

Dynamical and collisional evolution of Halley-type comets.

2008-2009

Masters thesis

Astronomical Institute Utrecht

Simulations of comets in planetary systems.

2007

Bachelors thesis
NIKHEF, Amsterdam

Simulations of cosmic-ray showers for HiSPARC.