JURJEN DE JONG

Astronomer | Data scientist

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Leiden, the Netherlands

LANGUAGES

Language	Rating
Dutch	★★★★★
English	★★★★★
German	★★☆☆☆
Swedish	★☆☆☆☆
French	★☆☆☆☆

TECH STACK

Operating systems:
Linux, Windows

Programming languages:
Python, Bash, R, Julia, SQL, Rust

Database management:
MySQL, MongoDB

Workflow/cluster management:
HPC, Slurm, CWL

Machine learning:
scikit-learn, Keras, Tensorflow, PyTorch

DevOps tools:
Singularity, Docker, version control (Git)

Project management experience:
Scrum, Jira, Trello

Other:
Tableau, SolidWorks, LaTeX

Data scientist, research software engineer, and radio astronomer with a background in various fields and industries. Professional experience ranges from developing data-driven tools and software for commercial companies to smashing around terabytes of data on high-performance supercomputers to learn something about the universe.

Experience

2017-2017
Mechanical Engineer
EPPM (Tunisia)
- Determining stresses on lifting lugs
- Studying pressure on oil tanks

2017-2020
Science writer
Scientias
- Writing about science and technology in Dutch.

2018-2019
Astronomer
European Space Agency
- Analyzing distances between stars with the latest data release of Gaia.

2019-2021
Data scientist
Matrixian Group
- Developing an address validation checker for postal companies
- Developing a prepayment model for banks
- Developing a house price prediction machine learning model

2021-2027
Radio astronomer
Leiden Observatory
- Developing imaging pipelines
- Study radio galaxies and clusters at the lowest frequencies
- Teaching Radio Astronomy for master students
- Organizing group meetings
- Supervising students

Education

2012-2015
Mathematics (BSc)
Utrecht University
Minor: History/philosophy of science
Thesis: Study of ancient Indian astronomy
Supervisor: Steven Wepster

2013-2015
Physics (BSc)
Utrecht University
Thesis: Study of ancient Indian astronomy
Supervisor: Steven Wepster

2015-2017
Mathematics (MSc)
Ghent University
Thesis: Study of the Nuker Model with the Fox-H function
Supervisor: Maarten Baes

2017-2018
Space Studies (MSc)
Leuven University
Thesis: Benford's law in Gaia DR2
Supervisors: Joris De Ridder, Jos de Bruijne

2021-2025
Astronomy (PhD)
Leiden Observatory
Thesis: Unlocking Depth and Detail
Supervisors: Huub Rottgering, Reinout van Weeren, Raymond Oonk

PUBLICATIONS

de Jong et al. in prep.
Automated LOFAR VLBI data reduction

de Jong et al. submitted to A&A.
Sidereal visibility averaging

de Jong et al. 2024, A&A, Volume 689, 32 pp.
Into the Depths: Unveiling deepest ELAIS-N1

de Jong et al. 2024, A&A, Vol. 683, 17 pp.
Cosmic evolution of FRI and FRII to z=2.5

de Jong et al. 2022, A&A, Vol. 668, 19 pp.
Deep study of A399-401

de Jong et al. 2020, A&A, Vol. 642, 16 pp.
Benford's law in the Gaia Universe

(Only first-authored publications are listed)

CONFERENCES

Talk at ADASS 2024 (Valletta)
Automated sub-arcsec. wide-field imaging with LOFAR

Talk at LOFAR Fam. meeting 2024 (Leiden)
Unveiling ELAIS-N1 with LOFAR's deepest sub-arcsec wide-field images

Talk at URSI 2024 (Gran Canaria)
Unveiling ELAIS-N1 with LOFAR's deepest sub-arcsec wide-field images

Talk at SPARCS 2024 (Bologna)
Unveiling ELAIS-N1 with LOFAR's deepest subarcsec wide-field images

Talk at SALF 2023 (Amsterdam)
Deep sub-arcs. calibr. and imag. of ELAIS-N1

Poster at LOFAR Fam. Meeting 2023 (Olztyn)
ELAIS-N1 at sub-arcsec.

Talk at Deep Field Symposium 2023 (Online)
ELAIS-N1 at 1"-towards sub-arcsec. resolution

Talk at SPARCS 2022 (Johannesburg)
A deep study of A399-401

Talk at IAU 2022 (Busan)
A deep study of A399-401

References available on request

Achievements/Awards

- Awarded with an NWO computing grant on HPC system (2024)
- Awarded with a scholarship from Leids Kerkhoven-Bosscha Fonds (LKBF) for supporting a visit to the IAU in Busan (2022)
- Awarded with a scholarship by Flanders Trainee Programme for an internship at the European Space Agency (2018)
- Awarded with a scholarship by the University of Leuven to study Chinese language and culture in Taiwan (2018)
- Awarded with a scholarship by the University of Ghent for an internship at a company in Tunisia (2017)
- Awarded with a scholarship by Erasmus+ to study in Uppsala (2016)
- 1st place at the first round of the Mathematical Olympiad at secondary school (2011)
- 2 times player of the year award local hockey club (2009-2010)
- Chess champion at a competition between 3 local primary schools (2002-2003)

Additional courses

- Programming in Rust (2023, Aalto University)
- Science communication (2021, University Leiden)
- Earth observation (2019, MOOC by Copernicus Accelerator)
- Chinese language and culture (2018, National Cheng Kung University in Tainan)
- Data Camp courses about Machine Learning, Neural Networks, Data Science, and Data Engineering (2017-2020)

Other activities

- Co-founder of Stamily: non-profit associat. for people who stutter
  - As chair, I contributed to writing statutes and bylaws, recruit first members, set up committees, and organize events.
  - As vice-chair and advisory board member, I contributed to the front-end and back-end of our website and organizing events to engage with our members.
- Co-founder Asbronomers
  - Writing engaging blogs about astronomy.
- Member of the committee of education from VIDIUS
  - With the aim to improve student life in Utrecht.
- Giving talks at several speech-related conferences
- Co-organizer scientific conference (LOFAR Family meeting) in Leiden in 2024.
- Writer for Towards Data Science. Articles can be found here.