

# Marrit Zuure, PhD

## Curriculum Vitae

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### Profile

Data scientist with experience in both academia and industry. I am an idealist, analytically minded, and am eager to learn and broaden my horizons.

### Work experience

2021–present **Data scientist**, *Orikami*, Nijmegen.

From 2021 to 2024, I consulted for the Dignity & Pride elderly care programme at knowledge institute Vilans, managing data entry and ETL for the backend database and providing analyses and insights. From 2024 on I pivoted to Orikami's core business in digital biomarker development, engaging in data management, requirements engineering, customer service and testing.

2020–2021 **Data scientist**, *LUMIGUIDE*, Nijmegen.

Analysis, insight extraction, and presentation of AI-derived bicycle parking data.

2016–2020 **PhD in Computational Neuroscience**, *Department of Neuroinformatics, Radboud University/Donders Institute*, Nijmegen.

Project: *Midfrontal cortex theta oscillations: Causes and consequences*.

Through neural network modeling and EEG data analysis, I examined the mechanisms that implement response conflict processing and generate the accompanying brain oscillations.

2011–2012 **Research assistant**, *University of Amsterdam*.

2009–2010 **Data entry and validation**, *Air Traffic Control the Netherlands*, Amsterdam.

### Technical skills

Programming Python, SQL, MATLAB

Data analysis Specialized in EEG/MEG data, oscillatory activity, advanced multivariate source separation. Many generally applicable skills: PCA, dimensionality reduction, Fourier, linear regression, clustering, signal processing, data cleaning, etc.

Modeling Specialized in biophysically realistic neural network models.

Statistics Academic level.

Other Git, Power BI/DAX, API usage, website scraping. Some CI/CD pipelining, Docker.

### Formal education

2012–2015 **Cum Laude Master Brain & Cognitive Sciences**, *Cognitive Science Center Amsterdam*.

Track Cognitive Neuroscience.

Master thesis: *Dynamic routing of information flow between brain areas: Possible roles for the prefrontal cortex and the pulvinar nucleus of the thalamus*

- 2009–2012 **Honours Bachelor Psychology, specialisation Brain & Cognition**, *University of Amsterdam*.  
Bachelor thesis: *The reward prediction error in dopaminergic midbrain neurons*
- 2009–2010 **Honours Propedeuse Psychology**, *University of Amsterdam*.
- 2003–2009 **Bilingual VWO education**, *Koninklijke Scholengemeenschap*, Apeldoorn.

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## Research internships

- 2014–2015 **Oscillations in neural networks**, *University of Amsterdam*.
- 2013 **Functional organisation of the lateral occipital cortex**, *University of Amsterdam*.
- 2010–2011 **Selection module efficacy**, *Air Traffic Control the Netherlands*, Amsterdam.

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## Other activities

- 2016–2018 **PhD council member**, *Donders Institute*, Nijmegen.  
I provided input for Donders-wide and faculty-wide policies, served as a point of contact between PhD candidates and the institute, disseminated information through newsletters, and organized social events.

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## Extracurricular trainings and courses

- 2018 Linear Algebra for Neuroscientists
- 2017 CAJAL Course in Computational Neuroscience
- 2012 Stanford Online Machine Learning Course

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## Languages

- Dutch **Fluent** *Native language.*
- English **Fluent** *Certificate: IB English A2 Higher Level.*

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## Publications

- 2024 Van den Berg, B., **Zuure, M. B.**, Vermunt, P., Zondervan-Zwijenburg, M., & Minkman, M. *Improving and supporting quality of care in Dutch nursing homes: A quantitative study*. Manuscript submitted for publication.
- 2021 **Zuure, M. B.**, & Cohen, M. X (2021). Narrowband multivariate source separation for semi-blind discovery of experiment contrasts. *Journal of Neuroscience Methods*, 350, 109063.
- 2020 **Zuure, M. B.**, Hinkley, L. B., Tiesinga, P. H. E., Nagarajan, S. S., & Cohen, M. X (2020). Multiple midfrontal thetas revealed by source separation of simultaneous MEG and EEG. *Journal of Neuroscience*, 40(40), 7702–7713.