## WARD BERND EILING

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## Personal Profile -

Driven Research Master's student in Methodology and Statistics at Utrecht University with a strong academic foundation in communication (writing and presenting), programming, data visualization, and statistical modeling.

## Education -

**Utrecht University** 

Research Master, Methodology and Statistics (English)

University of Groningen

Honours College (extra programme of 45 ECTS; English)

University of Groningen

Bachelor of Science, Psychology (English)

Sep. 2023 – May 2025 (Expected)

First-year GPA: 8.7/10.0

 $May\ 2021-July\ 2023$ 

Sep. 2020 - Aug. 2023

Graduated Cum Laude GPA: 8.7/10.0

# Research Experience –

#### Utrecht University, Master Thesis Project

 $\hookrightarrow$  Prof. Ellen Hamaker & Dr. Jeroen Mulder

Sep 2024 – present

- Investigated bias in treatment effect estimation in multilevel linear models with randomized treatment and timevarying endogenous covariates by performing large-scale simulations (parallelized in R) and creating causal graphs.
- Managed reproducible research compendium on GitHub.
- $\bullet$  Presented preliminary findings and wrote intermediary research report independently.

#### University of Groningen Research Intern

Oct. 2022 - July 2023

- $\hookrightarrow$  Dr. Sebastiaan Mathôt & MSc Veera Ruuskanen
- Investigated state-dependent pupil dilation and feature selectivity in an experimental study.
- Drafted Ethics Committee proposals, conducted laboratory data collection and calibrated eye trackers.
- Computed perceptual sensitivity and analyzed data using regression, ANOVA, and ROC curves in R.

#### University of Groningen, Bachelor Thesis Project

Sep. 2022 – July 2023

 $\hookrightarrow$  Dr. Laura Bringmann & Prof. Casper Albers

15 ECTS Grade: 9/10

- Investigated model misspecification in VAR(1) models (related to non-stationarity) by performing a simulation study and empirical analysis in R, comparing cross-validation techniques and predictive accuracy metrics (e.g., MSPE, Mahalanobis distance).
- Collaborated with a research master's student and presented findings through an oral presentation and final report.

## University of Groningen Research Intern

Sep. 2021 - Aug. 2022

- $\hookrightarrow$  Dr. Brian D. Ostafin
- Explored the relationship between awe induction and perceived meaning in life in collaboration with fellow students.
- Designed a Qualtrics survey and conducted data collection.
- Analyzed data using ANOVA, planned comparisons, and moderation analyses in SPSS.
- Delivered the methods and results of a research report and presented the findings to an audience.

## Work Experience -

Utrecht University, Society in the Loop Project Research Assistant (8 hours/week)

Oct. 2024 – present

- Explored available open data and created data visualizations to support stakeholder conversations.
- Identified underrepresented groups or facilities within data sets.
- Explored 3D mapping tools (e.g., Netherlands3D) for digital twin applications.

#### Utrecht University, Advanced course on using Mplus Teaching Assistant

Aug. 2024

 $\hookrightarrow$  Prof. Ellen Hamaker & dr. Jeroen Mulder

• Assisted in the teaching of the Summer School course S23 Advanced Course on Using Mplus, covering topics such as longitudinal mixture modeling, causal inference in cross-lagged panel research, and dynamic structural equation modeling (DSEM).

Utrecht University, Introduction to Research Methods Teaching Assistant (6 hours/week) Sep. 2023 - Nov. 2023

• Actively taught research methods to two practical groups consisting of more than 20 Bachelor's students.

University of Groningen, Educational Institutional Research Assistant (12 hours/week) Sep. 2022 - Sept. 2023

- Improved Qualtrics surveys regarding the state of education (for students and teachers) in different faculties.
- Preprocessed data with SPSS syntax and made factsheets with advanced Microsoft Excel formula syntax.

University of Groningen, Statistics 2 Teaching Assistant (10 hours/week)

Aug. 2022 - Jan. 2023

- Supervised/taught two practical groups of about 15 students each.
- Assisted students with manual calculations and software exercises (JASP/SPSS) pertaining to varying types of regression (e.g., simple linear, multiple, logistic) and ANOVA.

**Team050** Ambulatory Attendant (6 hours/week)

Mar. 2022 - Dec. 2022

- Provided emotional and practical support to children, helping alleviate parental burdens.
- Motivated clients to engage in educational activities and guided clients with planning and structure, resulting in the improvement of grades.
- Enhanced clients' sense of self by providing emotional support.

#### Awards -

Judicium Cum Laude Graduated with the judicium Cum Laude for the Bachelor of Psychology.

2023

## Best in Class, Data Visualization

2021

Awarded (a book) for creating the best Tableau-based data visualization dashboard in the "Analyzing Data" course.

# **Projects & Extracurricular Courses** -

Non-Stationarity and Model Selection Researcher

June 2024 - present

- $\hookrightarrow$  M.Sc. Yong Zhang, Dr. Anja Ernst, Dr. Ginette Lafit, Dr. Laura Bringmann
- Co-authored a manuscript (under submission) for the British Journal of Mathematical and Statistical Psychology, focusing on in-sample and out-of-sample model selection techniques for non-stationary autoregressive (AR) models.
- Evaluated non-stationary AR models (e.g., time-varying, hidden Markov, regime-switching, threshold) using information criteria (AIC, AICc, HQ, BIC) and cross-validation errors on empirical psychopathological dataset.
- Designed and conducted a systematic review on ecological momentary assessment studies using Rayyan.

University of Groningen A gentle introduction to deep learning

Dec. 2022

• Explored topics in 1) machine learning and neural networks; 2) gradient descent, vanishing gradients, training networks; 3) convolutional neural networks and variants; and 4) how to use transformer networks.

Great Learning Academy Introduction to R

Sept. 2020 – Jan. 2021

• The contents of this course pertained basics of R (e.g., basic programming, accessing packages, writing functions).

#### Technical Skills —

Programming Languages R,

R, Python & MATLAB.

Markup Languages

Markdown (e.g., Quarto) & LATEX.

**Software Applications** 

RStudio, GitHub, SPSS, JASP, Tableau, Zotero, ATLAS.ti, Anaconda, Mendeley,

Rayyan, Microsoft Office & Adobe Acrobat DC.

Languages

Dutch (native) & English (fluent).

Miscellaneous

Exceptional analytical and problem solving skills, strong verbal and written

communication skills.

#### Selected Coursework -

M.Sc. Methodology & Statistics (grade)

Bayesian Statistics (10/10)

Causal Inference and SEM (8.5/10)

Computational Inference with R (9/10)

Fundamentals of Statistics (8.5/10)

Introduction to Biomedical Statistics (8/10)

Survey Data Analysis (9/10)

Data Analytics 2: Battling the Curse of Dimensionality (8.7/10)

**B.Sc. Psychology (3**<sup>rd</sup> **year)** (grade)

Experimental Skills (10/10)

Programming for Psychologists (9.5/10)

Introduction to Qualitative Research Methods (8.5/10) Statistical Solutions to Research Problems in Psychology

Philosophy of Psychology (9/10)

#### Interests -

Academic Causal discovery, Bayesian statistics, high dimensional data analysis, time-series analysis,

philosophy of science, clinical versus statistical prediction, qualitative research & missing data.

Health Mindfulness, yoga, meditation, running, skiing, snowboarding, cycling, windsurfing & playing guitar.

**Computers** Building electronics projects at home  $\mathcal{E}$  optimizing work-flow.

**Other** Reading novels (e.g., Fyodor Dostoevsky) & philosophy (e.g., Alan Watts, Seneca, Marcus Aurelius).