Thom Benjamin Volker

Utrecht, The Netherlands

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EDUCATION

MSc Methodology and Statistics   **2019 - 2022**
Utrecht University, Netherlands   *Cum laude (GPA 8.9/10)*

○ Thesis - Combining support for hypotheses over heterogeneous studies with Bayesian Evidence Synthesis: A simulation study (supervised by Prof. Dr. Irene Klugkist).

MSc Sociology and Social Research   **2019 - 2022**
Utrecht University, Netherlands   *Cum laude (GPA 8.7/10)*

○ Thesis - The future is made today: Concerns for reputation foster trust and cooperation (supervised by Prof. Dr. Ir. Vincent Buskens & Prof. Dr. Werner Raub).

BA Liberal Arts & Sciences   **2016 - 2019**
Utrecht University, Netherlands

○ Major in Pedagogical Sciences; minor in Sociology and Social Research

EXPERIENCE

PhD candidate Synthetic data   **2022 - Current**
Utrecht University

○ Supervisor: Dr. Erik-Jan van Kesteren
○ I investigate how to optimize the creation of synthetic data in terms of the risk-utility trade-off.

Internship MICE Group   **2020 - 2022**
Utrecht University

○ With Dr. Gerko Vink I established a framework on how to generate synthetic data with the R-package `mice` to preserve privacy and confidentiality.

Research Assistant   **2019 - 2022**
Utrecht University

○ For Dr. Peter Lugtig, I worked on research and teaching related topics, (e.g., creating content for the research master level course 'Survey Data Analysis', by developing a Shiny App, creating data visualizations and creating the webpage https://www.peterlugtig.com.
○ For Dr. Rebecca Kuiper, I created data visualizations and assisted PhD students by revising text.
○ For Laura Hofstee and Rens van de Schoot, I contributed to ASReview, an automated text screening service to assist in systematic reviews.

TEACHING

○ Post-graduate level courses:
  – Multiple Imputation in Practice (MIMP; Utrecht Summer School 2019-2021) - supervision of practicals and providing R assistance.
  – Statistical Programming with R (Utrecht Summer School 2021) - supervision of practicals.
  – Advanced Survey Design (Utrecht Summer School 2021) - supervision of practicals.
○ Master's level courses:
  – Battling the curse of dimensionality (2022-Current) - a course on modelling with various forms of high dimensional data (i.e., $p > n$, text analysis, time-series data); developed course materials, taught practical sessions and graded exams.
  – Network Analysis (2020-2021) - developing practical assignments and supervising the practicals.
  – Data wrangling (2021-Current) - teaching working groups on introduction to data wrangling and

modelling in `R`.
– Methodological and Statistical Aspects of Social Science Research (2019-2020) - teaching practical sessions on topics ranging from multiple regression to moderation and mediation analysis.
○ Bachelor's level courses:
– Theory Construction and Statistical Modeling (2019-2020) - teaching practicals on structural equation modeling using `lavaan`.
– Various undergraduate courses on standard statistical methods.

SUPERVISION

○ Mirthe Hendriks (Master's thesis, co-supervised with Dr. Gerko Vink, 2021).
○ Stijn van den Broek (Master's thesis, co-supervised with Dr. Gerko Vink, 2021).
○ Romain Rey (Bachelor's thesis, co-supervised with Prof. Dr. Irene Klugkist, 2020).

OTHER

IOPS   **2022 - Current**
PhD Representative
○ Represent PhD candidates in the Interuniversity Graduate School of Psychometrics and Sociometrics.

Debuut   **2019 - 2020**
Utrecht University
○ Buddy programme at Utrecht University to match potential first generation university student with actual students to get a flavour of what studying at a university entails.

RECEIVED FUNDING

SynthEval   **2023-2024**
Project lead
○ An R package for evaluating and improving the quality of synthetic data sets. For €15.000.

SOFTWARE PROFICIENCY

○ `R`
○ `MPlus`
○ `SPSS`
○ `HLM`
○ `JAGS`
○ Learning `python`
○ Learning `C++`

INVITED WORKSHOPS / PRESENTATIONS

○ Fake it 'till you make it: Generating synthetic data with high utility in `R` [with Erik-Jan van Kesteren], Tübingen Open Science Winter School, 13 February 2023, Tübingen, Germany.
○ Creating synthetic data with `mice` in `R` [with Gerko Vink], UMCU, 4 November 2022, Utrecht, the Netherlands.

PUBLICATIONS

○ **Volker, T. B.** & Klugkist, I. (*Submitted*). Combining support for hypotheses over heterogeneous studies with Bayesian Evidence Synthesis: A simulation study. Paper.
○ Klugkist, I. & **Volker, T. B.** (*Submitted*). Bayesian Evidence Synthesis for Informative Hypotheses:

An introduction. Paper.

- Van Leeuwen, A., Bagheri, A., **Volker, T. B.** & Van Brakel, Charlotte (*In press*). Verkenning van de inzet van topic modelling bij het analyseren van schrijfopdrachten in de context van de flipped classroom. [Exploring the use of topic modelling for the analysis of written assignments in a flipped classroom context.] *Tijdschrift voor Hoger Onderwijs.*
- **Volker, T. B.** & Vink, G. (2021). Anony*mice*d Shareable Data: Using `mice` to Create and Analyze Multiply Imputed Synthetic Datasets. *psych, 3*, 703-716. Paper.
- **Volker, T. B.**, Buskens, V. & Raub, W. (In preparation). The future is made today: Concerns for reputation foster trust and cooperation. Paper.

SOFTWARE VIGNETTES

- **Volker, T. B.** & Vink, G. (2022). `futuremice`: The future starts today. `https://www.gerkovink.com/futuremice/Vignette_futuremice.html`

SOFTWARE DEVELOPMENT

- `mice` [ctb] - Developed functionality to pool inferences from synthetic data and implemented `futuremice` to speed up imputation by using user-friendly parallel processing.
- `ggmice` [ctb] - Adjusted functionality to allow for visualization of synthetic data.