

# Rianne M. Schouten, PhD – Resume

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**Personal information** Date of birth: 11 May 1991; Nationality: Dutch;  
Married, Mother of 1 son (3 years old)  
Living in Eindhoven, the Netherlands

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Google Scholar: <https://scholar.google.nl/citations?hl=nl&user=xC56bhMAAAAJ/>



## Education

**2025** PhD in Data Mining, Eindhoven University of Technology, the Netherlands  
**2017** MSc in Methodology and Statistics, GPA: 4, Utrecht University, the Netherlands  
**2013, 2014** Two preparatory programs Social Sciences, Utrecht and Amsterdam, the Netherlands  
**2012** BSc in Medicine, Utrecht University, the Netherlands

## Academic career

**2025 - Now** Postdoctoral researcher, Eindhoven University of Technology, the Netherlands  
**2020-2025** PhD candidate, Eindhoven University of Technology, the Netherlands  
Promotors: [Prof. Mykola Pechenizkiy](#), [Dr. Wouter Duivestijn](#)  
**2022** Maternity leave  
**2017-2019** Researcher Missing Data, Utrecht University, the Netherlands  
Supervisors: [Prof. Stef van Buuren](#), [Dr. Gerko Vink](#)  
**2015** Intern @ Dutch Institute of Space Research  
**2015, 2016** Teaching Assistant of Prof. Edith de Leeuw, Utrecht University, the Netherlands

## Industry experience

**2018-2020** Developer Data & Analytics @ Youth-care Organization;  
Database engineering, Stakeholder communication, Small team lead  
**2017** Data Scientist @ DPA Professionals; Consultancy and Traineeship

## Grants and funding

**2024** Personal NWO take-off grant of €40K  
To investigate valorization potential of our data mining methods, application in EdTech  
**2022** Seed money grant of €45K  
On Better Imputation by Generative Adversarial NeTworks, w/ Prof. Stef van Buuren et al.

## Awards and recognition

**2024** Recognition as an Excellent Reviewer Research Track @ ECML PKDD  
**2021, 2022** Awards for Excellent student evaluations in the course Research Topics in Data Mining  
**2021** In top-3 of Best Poster during NWO Commit2Data Day

## Research visits

<b>2025</b>	Prof. Hendrik Blockeel, Prof. Jesse Davis	@ Leuven University	3 days, in August
<b>2025</b>	Prof. Tijl de Bie, Prof. Jeffrey Lijfijt	@ Ghent University	2 days, in August
<b>2025</b>	Prof. Barbara Hammer	@ Bielefeld University	1 week
<b>2025</b>	Prof. Monique Tabak	@ University of Twente	1 day
<b>2024</b>	Dr. Marcos L.P. Bueno	@ Radboud University	1 day
<b>2016</b>	Prof. Andrew Gelman	@ Columbia University	2 months

## Research expertise

**Methods:** Subgroup Discovery, Exceptional Model Mining, Local Pattern Mining, Missing Data, Heterogeneous Treatment Effects, Mixed-Effects Models, (Dynamic) Bayesian Networks, Causal Diagrams, Counterfactual Explanations, Causality

**Data representation:** Tabular, Multilevel, Longitudinal, Sequential, Time Series, Repeated Cross-Sectional

**Applications:** Medical, Public Health, Educational, Social Sciences

## Publications and citations

6 journal articles, 10 conference proceedings papers, 11 workshop contributions without proceedings, 2 open source software contributions, 1 thesis, 433 citations, h-index 7, i10-index 4, according to [Google Scholar](#); Full list of publications [can be found below](#).

## Domain collaborations and project management

<b>2025-Now</b>	Project lead	AlgebraKit, Eindhoven, the Netherlands
<b>2022-Now</b>	Project lead	Turku Research Institute for Learning Analytics, Turku, Finland
<b>2022-Now</b>	Project lead	Erasmus Medical Center (DEPAR), the Netherlands
<b>2020-Now</b>	Project management	EDIC Consortium; Progress reports, timeline and deliverables
<b>2020-2024</b>	Project lead	Netherlands Institute of Mental Health and Addiction
<b>2020-2022</b>	Project lead	Hospital Twente (ZGT), the Netherlands
<b>2017-2019</b>	Statistical consultant	Utrecht Medical Center, the Netherlands

## Community service

<b>2020-Now</b>	Reviewer Journals	DAMI, ML, Statistics in Medicine, Biomedical J., JRSSB
<b>2024-Now</b>	Reviewer Conferences	EWAF, ECML PKDD
<b>2022-Now</b>	Open source software	<a href="#">pyampute</a> in Python
<b>2020-Now</b>	Open source software	<a href="#">ampute</a> in R-package mice
<b>2025</b>	Session chair	@ EWAF
<b>2024</b>	Proceedings Chair	@ ECML PKDD

## Invited talks and news

<b>2025</b>	Colloquium talk	@ Bielefeld University	EMM for Hierarchical Data
<b>2025</b>	Info-topic	@Cursor	EMM for Hierarchical Data
<b>2024</b>	Guest-lecture	@ Radboud University	Exceptional Model Mining
<b>2021</b>	Colloquium talk	@ EAISI Eindhoven	Exceptional lifestyle behaviour
<b>2020</b>	Colloquium talk	@ Roche	Heterogeneous Treatment Effects
<b>2019</b>	Invited talk	@ R-ladies Amsterdam	Workshop on MD Methods
<b>2018</b>	Symposium contr.	@ ICT Open	MD Methods
<b>2018</b>	Symposium contr.	@ Eur. Women in Technology	Workshop on MD Methods
<b>2018</b>	Symposium contr.	@ sat-R-Day	MD Methods
<b>2018</b>	Invited contr.	@ Data Science Hackathon	Hackathon on MD Methods
<b>2017</b>	Invited talk	@ Amst-R-Dam	Generating Values
<b>2017</b>	Conference contr.	@ UserR!	Generating Missing Values

## Teaching

<b>2024</b>	Research Topics in Data Mining	Master-level	Lead track with 50 students
<b>2022</b>	Research Topics in Data Mining	Master-level	2 lectures, 5 group projects
<b>2021</b>	Research Topics in Data Mining	Master-level	2 lectures, 5 group projects
<b>2020</b>	Foundations of Data Mining	Master-level	Organization, Q&A, exercises
<b>2015, 2016</b>	Survey Research	Post-graduate	Organization, 2 practicals

## Supervision

2024-Now	PhD candidate	Lieke van den Biggelaar	EMM for Time Series data
2023-Now	PhD candidate	Emmanuel C. Chukwu	CFEs for TSC
2025-Now	MSc Thesis	Abdullahi Farah	Numerical Optimization for EMM
2025	4 BSc Theses	4 students	MD in Longitudinal Data
2025	4 BSc Theses	4 students	SD in Longitudinal Data
2024	MSc Thesis	Haoqi Guo	Diversity and Feasibility of CFEs
2024	MSc Thesis	Lieke van den Biggelaar	Exceptional Atrium Fibrillation
2023	MSc Thesis	Victoria Tascu	MD in Longitudinal Data
2022	MSc Thesis	Mika van Loon	Bootstrap Hypothesis Tests for SD
2022	Internship@Signify	Varun Kamat	Recommendation tool
2021	Research Proposal	Isabel van den Heuvel	Fair ML Algorithms
2021	Research Proposal	Mats Verbraak	MD for Prediction
2021	MSc Thesis	Bart van Dooren	Predicting Cardiovascular Risk

## Training and courses

2024	Scientific Integrity for PhD Candidates
2022	Foundations as part of UTQ Program TU/e
2022	Facilitating Learning as part of UTQ Program TU/e
2022	Assessment as part of UTQ Program TU/e
2022	Communication Styles
2021	Integrating Learning and Reasoning as part of SIKS
2020	Fluxicon Introduction to Disco
2020	PhD Project Planning and Time Management
2019	461 Querying Microsoft SQL Server 2012/2014

## Testimonials

### Prof. Mykola Pechenizkiy

Promotor  
Eindhoven University of Technology  
[m.pechenizkiy@tue.nl](mailto:m.pechenizkiy@tue.nl)

*"[Rianne] is highly independent and motivated, formulating and successfully pushing forward the research questions resolved in her thesis. Rianne has a strong intuition in search for relevant problem formulations; she grounds her research approach in the specifics of the application domains."*

### Dr. Wouter Duivesteijn

Co-promotor  
Eindhoven University of Technology  
[w.duivesteijn@tue.nl](mailto:w.duivesteijn@tue.nl)

*"[Rianne] went far beyond research, [...]. These would be normal activities for a faculty-level academic career, but when you're still working on your PhD this is quite a bit ahead of the curve."*

### Prof. Edith de Leeuw

Supervisor  
Utrecht University

*"Rianne was a first class assistant at our summer school courses. Not only was all material prepared extremely punctual and without errors, she also got very high student evaluations. I can wholeheartedly recommend Rianne!"*

### Jin Ouyang

Master student in 2021  
Research Topics in Data Mining

*"I took a lot of courses last year, but I like your instructions the most. It is not only because of your professional knowledge, but also because of your personality of being kind, patient, responsible."*

## Potential reviewers

Prof. Barbara Hammer	Bielefeld University	<a href="mailto:bhammer@techfak.uni-bielefeld.de">bhammer@techfak.uni-bielefeld.de</a>
Prof. Monique Tabak	University of Twente	<a href="mailto:m.tabak@utwente.nl">m.tabak@utwente.nl</a>
Prof. Pekka Räsänen	University of Turku	<a href="mailto:pekka.j.rasanen@utu.fi">pekka.j.rasanen@utu.fi</a>

## Full list of publications

- 2025 Schouten, R.M.** On the role of prognostic factors and effect modifiers in unraveling population heterogeneity. Presented at Causal Representation Learning Workshop NeurIPS 2024. Now under review for publication in proceedings.
- 2025** Hoogendam, V., Bakardzhieva, K., Mainardi, L., Xie, Luyang & **Schouten, R.M.** Interpretable Sample Selection with Exceptional Model Mining. Under review.
- 2025** Chukwu, E.C., **Schouten, R.M.**, Tabak, M. & Pechenizkiy, M. Recommendations are more than input changes: On the evaluation of counterfactual explanations in TSC. Under review.
- 2025** van den Biggelaar, L., **Schouten, R.M.**, de Bie, A., Bouwman, A. & Duivesteijn, W. Characterizing the Risk of Atrial Fibrillation in Cardiac Patients with Exceptional Electrocardiogram Phenotypes. Accepted for publication at KDD25.
- 2025 Schouten, R.M.** Exceptional Model Mining for Hierarchical Data. PhD thesis.
- 2024** van den Berg, N. T., Broekgaarden, B. O., Mahieu Dionysia, P., Martens, J. G., Niederle, J., **Schouten, R.M.** & Duivesteijn, W. Generating MNAR missingness in image data, with additional evaluation of MisGAN. Accepted for presentation at BNAIC/BeNeLearn 2024.
- 2024 Schouten, R.M.**, Stevens, G.W.J.M., van Dorselaer, S.A.F.M., Duinhof, E.L., Monshouwer, K., Pechenizkiy, M. & Duivesteijn, W. Analyzing the interplay between societal trends and socio-demographic variables with local pattern mining: Discovering exceptional trends in adolescent alcohol use in the Netherlands. Accepted for publication in post-proceedings at BNAIC/BeNeLearn 2024.
- 2024 Schouten, R.M.**, Duivesteijn, W., Rasanen, P, Paul, J.M., & Pechenizkiy, M. Exceptional Subitizing Range: Exploring Mathematical Abilities of Finnish Primary School Children with Piecewise Linear Regression. In: Proc. ECML PKDD, pp. 66-82.
- 2023 Schouten, R.M.**, Tascau, V., Ziegler, G.G., Casano, D., Ardizzone, M., & Erotokritou M.A. Dropping incomplete records is (not so) straightforward. In: Proc IDA, pp. 379-391.
- 2022** Verhaegh, R.F.A., Kiezebrink, J.J.E., Nusteling, F., Rio, A.W.A, Bendicsek, M.B., Duivesteijn, W. & **Schouten, R.M.** A Clustering-inspired Quality Measure for Exceptional Preferences Mining — Design Choices and Consequences. In: Proc. DS, pp. 429–444.
- 2022** Van der Haar, J.F., Nagelkerken, S.C., Smit, I.G., van Straaten, K., Tack, J.A., **Schouten, R.M.** & Duivesteijn, W. Efficient Subgroup Discovery Through Auto-Encoding. In: Proc. IDA, pp. 327-340.
- 2022 Schouten, R.M.**, Duivesteijn, W. & Pechenizkiy, M. Exceptional Model Mining for Repeated Cross-Sectional Data (EMM-RCS). In: Proc. SDM, pp. 585-593.
- 2022 Schouten, R.M.**, Bueno, M.L.P., Duivesteijn, W. & Pechenizkiy, M. Mining Sequences with Exceptional Transition Behaviour of Varying Order using Quality Measures based on Information-Theoretic Scoring Functions. Data Mining and Knowledge Discovery, 36: 379-413.
- 2021 Schouten, R.M.** & Vink, G. The dance of the mechanisms: How observed information influences the validity of missingness assumptions. Sociological Methods & Research, 50(3): 1243-1258.
- 2020** IJsselhof R, Duchateau S, **Schouten R.M.**, Slieker M, Hazekamp M & Schoof P. Long-Term Follow-Up of Pericardium for the Ventricular Component in Atrioventricular Septal Defect Repair. World Journal for Pediatric and Congenital Heart Surgery, 11(6): 742-747.

**2019** IJsselhof R.J., Duchateau S.D.R., **Schouten R.M.**, Freund, M.W., Heuser, J., Fejzic, Z., Haas, F., Schoof, P.H. & Sliker, M.G. Follow-up After Biventricular Repair of the Hypoplastic Left Heart Complex. *European Journal of Cardiothoracic Surgery*, 57(4): 644-651.

**2018** **Schouten R.M.**, Lugtig, P. & Vink, G. Generating missing values for simulation purposes: A multivariate amputation procedure. *Journal of Statistical Computation and Simulation*, 88(15): 1909-1930.

**2017** Kappen, I.F.P.M., Bittermann, G.K.P., **Schouten, R.M.**, Bittermann, D., Etty, E., Koole, R., Kon, M., Van der Molen, M. & Breugem, C.C. Long-term mid-facial growth of patients with a unilateral complete cleft of lip, alveolus and palate treated by two-stage palatoplasty: cephalometric analysis. *Clinical Oral Investigations*, 21: 1801-1810.

**2016** de Vries, C.P., **Schouten, R.M.**, Van der Kuur, J., Gottardi, L., & Akamatsu, H. (2016) [Microcalorimeter pulse analysis by means of principle component decomposition. In: *Proc. SPIE 9905, Space Telescopes and Instrumentation 2016: Ultraviolet to Gamma Ray*, 99055v. DOI: 10.1117/12.2231627