# Raphaël Morsomme

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## Education

**Academic interest**: statistics, Bayesian inference, Markov Chain Monte Carlo, data augmentation, conformal prediction, stochastic epidemic models, dynamic models.

**2019 – now: Ph.D. candidate in statistical science, Duke University.**

**2014 – 2018: double B.S. degree in *Liberal Arts and Sciences*:**

Honors program, *Summa cum Laude*.

University College Maastricht, The Netherlands, and University College Freiburg, Germany.

- Best undergraduate program of The Netherlands in 2014-2017.

Exchange at the University of California Los Angeles' Department of Statistics.

## Publications

Morsomme, R., & Xu, J. (2022). Uniformly Ergodic Data-Augmented MCMC for Fitting the General Stochastic Epidemic Model to Incidence Data. arXiv preprint arXiv:2201.09722.

Morsomme, R., & Smirnov, E. (2020). Valid Prediction Intervals for Course Grades with Conformal Prediction. In 2020 19th IEEE International Conference on Machine Learning and Applications (ICMLA) (pp. 936-941). IEEE.

Morsomme, R., & Smirnov, E. (2019). Conformal Prediction for Students' Grades in a Course Recommender System. In *Conformal and Probabilistic Prediction and Applications* (pp. 196-213).

Morsomme, R., & Alferez, S. V. (2019). Content-based course recommender system for liberal arts education. In *Proceedings of The 12th International Conference on Educational Data Mining (EDM 2019)* (Vol. 748, p. 753).

2018: Bachelor Thesis, Maastricht University, Department of Clinical Genetics
Model embryonic and mitochondrial data in the context of *in-vitro* fertilization.

2017: Bachelor Thesis, Freiburg University, Information System Research Institute
Forecasting of financial instability based on an anomaly analysis of soft content.

## Awards

2022: Outstanding Mentor of Undergraduate Research Award, Duke University Department of Statistical Science.

2022: Full scholarship, 14$^{th}$ Annual Summer Institute in Statistics and Modeling in Infectious Diseases, University of Washington.

2021: Young Investigator Award, ASA Section on Statistics in Epidemiology.

## Professional Experience

2022: Instructor of record, STA101 Data Analysis and Statistical Inference, Duke University.

2021: Tutor for the SPIRE Fellows Program, Duke University.

2021: Judge for the ASA DataFest.

2021: Instructor of Record, STA101 Data Analysis and Statistical Inference, Duke University.

2020-21: Research Mentor, Lumiere Research Scholar Program.

2020: Programming Consultant, Children's Environmental Health Initiative, Rice University.

2019: Statistical Consultant, Future Earth, Paris.

2018-19: Junior Data Scientist, University College Maastricht.
Task: topic modeling of course content, conformal prediction of course grade and development of a course recommender system for Liberal Arts students.

2017: Research Assistant, the Information System Research Institute, Freiburg.
Task: develop a trading decision support system based on a sentiment analysis of financial news.

2017: Teaching Assistant: Intro to Statistics and Data Analysis, Freiburg University.

## Programming Skills

Proficiency in **R**, **MATLAB**, **LaTeX**.

Working Knowledge of Python, SAS, SQL, Tableau, Weka.

## Other experience

2016 – now: Run marathons.

2015: Represented Belgium at the final of the *Euromath Cup* – 3rd place.

2014 – 2019: Red Cross volunteer.

2005: International finalist of the *Championship of Math & Logic Games*.