

Wojciech Reise

PhD candidate in Mathematics, interested
in statistically-sound industrial applications

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Education

- 09.2020-09.2023 **PhD student**, *DataShape, Inria Saclay*.
Topological descriptors of curves, with applications to vehicle positioning, under the supervision of Frédéric Chazal and Bertrand Michel.
- 09.2017-07.2019 **Master in Computational Science and Engineering**, *EPF Lausanne*.
Master project in topological data analysis for audio fingerprinting.
- 09.2014-06.2017 **BSc in Mathematics**, *EPF Lausanne*.
Third year on exchange, at Ecole Normale Supérieure, focus on algebra and topology.

Experience

- 01.2020-07.2020 **Research intern**, *L2F*.
Implementation of topological data analysis methods and showcasing their applications. Development of a no-code interface for classification model training.
- 07.2019-09.2019 **Research intern**, *Spotify*.
Design and implementation of an audio identification algorithm based on topological data analysis.
- 07.2018-12.2018 **Data analysis intern**, *Dominice&Co*.
Analysis of historical daily prices and volatilities, work on in-house server and trading infrastructure.
- 04.2018-03.2019 **Treasurer**, *Club Montagne (EPFL)*.
Accounting, budget planning of subsidised outings and courses.
- 07.2016-09.2016 **Data analysis intern**, *Transport Lausannois*.
Analysis of the quality (punctuality and capacity) of the services, forecasting the number of passengers.
- 09.2015-02.2018 **Member**, *SHARE Association (EPFL)*.
Consulting-like projects for the EPFL Technology Transfer Office NeurIPS 2020 workshop Topological Data Analysis and beyond. Manager of a project for the ThinkEE startup 10-12.2017.

Publications

- 2022 **Topological phase estimation method for reparameterized periodic functions**, with T.Bonis, F.Chazal and B.Michel, Under review.
- 2020 **Giotto-tda: A Topological Data Analysis Toolkit for Machine Learning and Data Exploration**, with G.Tauzin, U.Lupo, L.Tunstall, J.B.Pérez, M.Caorsi, A.Medina-Mardones, A.Dassati, K.Hess, NeurIPS 2020 workshop Topological Data Analysis and beyond.

Teaching

- 09.2020-06.2023 **Assistant**, *Polytech Paris-Saclay*.
Exercise sessions for a course in analysis for first-, second-year students of an engineering school.
- 02.2018-06.2018 **Assistant**, *EPFL*.
Analysis II for the course of K.-D. Semmler.
- 09.2015-08.2016 **Private tutor**, *EliteIB*.
Regular tuition, exam preparation, organising revision courses.

Languages

Polish: Native, **French:** C2 (DALF), **English:** C2 (CAE grade A), **Italian:** A2

Interests

- Programming and open-source Maintainer of giotto-tda. Winner (team) of the Logitech challenge at Lauzhack 2018.
- Dance Lindy hop and Balboa dancer. Taught at local scene in 2020.