Paul Mangold

Education

- 2020–present **PhD student:** Privacy-perserving decentralized optimization for ML, *Inria Lille*, France. Supervisors: Aurélien Bellet, Marc Tommasi and Joseph Salmon.
 - 2018–2019 Agrégation de mathématiques option informatique, Université Lyon 1, France.
 - 2017–2018 Master 2 Data Sciences, École Polytechnique, France.
 - 2015–2017 Bachelor and Master 1 of Fundamental Computer Science, ENS de Lyon, France.
 - 2013–2015 Preparatory School for "Grandes Ecoles" (MPSI-MP*), Lycée du Parc, Lyon, France.

Teaching

- 2020–2022 Course and tutorials of data science in bachelor and master, Université de Lille, France.
- 2020-2022 Supervision of two master students' research projects, Université de Lille, France.
- 2016–2017 Weekly oral examiner, Lycée la Martinière Diderot, Lyon, France.

Research Internships

2020 CHU, Lille, France, Proof of concept of federated learning on medical data.

- 4 months Supervisors: Paul Andrey, Antoine Lamer and Alexandre Filiot.
- 2019–2020 Inria, Lille, France, Private and federated optimization for machine learning.
- 6 months Supervisors: Aurélien Bellet, Marc Tommasi and Joseph Salmon.
- 2018 Weierstrass Institute, Berlin, Germany, Numerical methods for unbalanced optimal 3 months transport.
 - Supervisor: Pavel Dvurechensky.
- 2017 **KU Leuven Kulak**, *Kortrijk*, *Belgium*, Development of a parameterized framework for 3 months evaluating machine learning on yeast gene expression network. Supervisors: Celine Vens and Jan Ramon.
- 2016 ~ IXXI, Lyon, France, Analysis of sociolinguistic relation between language and social networks 2 months ~ on a database of tweets.

Supervisors: Yannick Léo, Jean-Pierre Chevrot and Eric Fleury.

Miscellaneous

Languages French (Mother tongue), English (C1), Russian (B2), German (A2). Interests Free software, cooking, environment, biking, chess, electronic music.

Publications and Preprints

- 1. Differential Privacy has Bounded Impact on Fairness in Classification. P. Mangold, M. Perrot, A. Bellet and M. Tommasi, Preprint, 2023.
- High-Dimensional Private Empirical Risk Minimization by Greedy Coordinate Descent. P. Mangold, A. Bellet, J. Salmon and M. Tommasi, AISTATS, 2023.
- 3. FLamby: Datasets and Benchmarks for Cross-Silo Federated Learning in Realistic Healthcare Settings, J. du Terrail et al., NeurIPS, 2022.
- Differentially Private Coordinate Descent for Composite Empirical Risk Minimization, P. Mangold, A. Bellet, J. Salmon and M. Tommasi, ICML, 2022.
- 5. Specifications for the Routine Implementation of Federated Learning in Hospitals Networks, A. Lamer et al., MIE, 2022.
- 6. A decentralized framework for biostatistics and privacy concerns. P. Mangold et al., EFMI STC, 2021.
- 7. Optional realization of the French negative particule (ne) on Twitter: Can big data reveal new sociolinguistic patterns?. P. Mangold et al., ICLAVE, 2017