

# Quentin Klopfenstein

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## Education

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### PhD in Applied Mathematics (in progress)

UNIVERSITÉ DE BOURGOGNE

- Advisors: Samuel Vaïter and Hervé Cardot
- Title: New insight on coordinate descent
- Funding: Contrat doctoral (Concours 2018)

Dijon, France

2018-2021

### MSc in Applied Mathematics

UNIVERSITÉ DE BOURGOGNE

- Graduated with high honors
- Ranked 1/11
- Courses: Convex optimization, data analysis, Statistical inference, probability theory, stochastic algorithm

Dijon, France

2015-2017

### BSc in Mathematics

UNIVERSITÉ DE BOURGOGNE

Dijon, France

2012-2015

## Experience

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### Teaching assistant

UNIVERSITÉ DE BOURGOGNE

- Teaching statistical classes. Subjects include: introduction to probability distribution, confidence interval and statistical tests
- Given approximately 120 hours of classes

Dijon, France

Jan. 2018-June 2021

### Biostatistician

CENTRE GEORGES FRANÇOIS LECLERC, TEAM OF PROF. GHIRINGHELLI

- Worked in the research team of a cancer Institute
- Performed survival analysis, data analysis and software development

Dijon, France

Oct. 2017 - Sept. 2018

### Biostatistics Intern

CENTRE GEORGES FRANÇOIS LECLERC, TEAM OF PROF. GHIRINGHELLI

- Compared different algorithms to estimate immune cells proportions inside a tumor

Dijon, France

April 2017-Sept. 2017

## Publications

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### MATHEMATICS AND MACHINE LEARNING

#### Publications

- Q. Bertrand, Q. Klopfenstein, M. Blondel, S. Vaïter, A. Gramfort, J. Salmon. *Implicit differentiation of Lasso-type models for hyperparameter optimization*. ICML. 2020

#### Preprints

- Q. Klopfenstein, Q. Bertrand, A. Gramfort, J. Salmon, S. Vaïter. *Model identification and local linear convergence of coordinate descent*. Preprint. arXiv:2010.11825. 26 pages. 2020
- Q. Klopfenstein and S. Vaïter. *Linear Support Vector Regression with Linear Constraints*. Preprint. arXiv:1911.02306. 39 pages. 2019

### BIostatISTICS

- C. Reichling, J. Taieb, V. Derangère, Q. Klopfenstein *et al.* *Artificial intelligence-guided tissue analysis combined with immune infiltrate assessment predicts stage III colon cancer outcomes in PETACC08 study*. Gut. 2019

- Q. Klopfenstein, C. Truntzer, J. Vincent, F. Ghiringhelli. *Cell lines and immune classification of glioblastoma define patient's prognosis*. *British Journal of Cancer*. 2019
- F. Ledys, Q. Klopfenstein, C. Truntzer, L. Arnould *et al.* *RAS status and neoadjuvant chemotherapy impact CD8+ cells and tumor HLA class I expression in liver metastatic colorectal cancer*, *Journal for Immunotherapy of Cancer*, 2018
- J.D Fumet, C. Richard, F. Ledys, Q. Klopfenstein *et al.* *Prognostic and predictive role of CD8 and PD-L1 determination in lung tumor tissue of patients under anti PD-1 therapy*. *British Journal of Cancer*. 2018
- T. Collot, J.D. Fumet, Q. Klopfenstein, J. Vincent *et al.* *Bevacizumab-based Chemotherapy for Poorly-differentiated Neuroendocrine Tumors*. *Anticancer Research*. 2018

## Talks

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- 2020-10-21: Séminaire SPOC, Two algorithms to solve the LASSO, Université de Bourgogne
- 2020-07-14: ICML2020, Implicit differentiation of Lasso-type models for hyperparameter optimization, online conference
- 2019-08-27: GRETSI 2019, Linear Simplex Support Vector Regression, Lille
- 2019-07-02: SPARS 2019, Linear Simplex Support Vector Regression, Toulouse
- 2019-06-04: JDS 2019, Linear Simplex Support Vector Regression, Faculté des Sciences et Technologies, Nancy
- 2019-05-13: SMAI 2019, Linear Simplex Support Vector Regression, Guidel Plages
- 2019-04-12: Journée des Jeunes Chercheurs en Mathématiques, Deconvolution models: a tool to better understand cancers, Université de Bourgogne Franche Comté, Besançon

## Grants

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- Grant obtained for the visit of PhD Student from other teams. Research proposal written with Quentin Bertrand, see GDR IA, 2019

## Review services

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I was/am a reviewer for AISTAT2021, 2020 IEEE Information Theory Workshop and Journal of Machine Learning Software.

## Open source software

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Summary on my github page: <https://github.com/klopfe>

- sparse-ho: Python package for fast automatic hyperparameter selection of sparse linear models
- LSSVR: Python package for linearly constrained support vector regression