

# Anna Korba

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📄 <https://akorba.github.io/>

## Education

<b>Télécom ParisTech</b> <i>Ph.D. in Applied Mathematics (Machine Learning)</i> <ul style="list-style-type: none"><li>Title: Learning from Ranking Data: Theory and Methods</li><li>Supervisor: Stephan Cléménçon</li></ul>	<b>Oct. 2015–Oct. 2018</b> <i>Paris, France</i>
<b>ENS Cachan</b> <i>Master MVA, First class honours</i> Applied Mathematics for Computer Vision and Machine Learning.	<b>Sep. 2014–Jun. 2015</b> <i>Cachan, France</i>
<b>ENSAE ParisTech</b> <i>Engineering degree, First class honours</i> Applied Mathematics, Advanced Statistics & Economics.	<b>Sep. 2012–Jun. 2015</b> <i>Paris, France</i>
<b>Lycée Henri IV</b> <i>Classes préparatoires</i> Mathematics, Physics, Computer Science.	<b>Sep. 2009–Jun. 2012</b> <i>Paris, France</i>

## Professional Experience

### Academic

<b>Gatsby Unit, University College London (UCL)</b> <i>Postdoctoral Research Fellow</i> Laboratory of Pr. Arthur Gretton. My research is focused on learning theory, kernel methods and optimal transport.	<b>Dec. 2018–Present</b> <i>London, United Kingdom</i>
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### Teaching and Supervision

<b>Télécom ParisTech</b> <i>Teaching assistant</i> Practical sessions for Master's students: <ul style="list-style-type: none"><li>Machine Learning, with Python (32 hours a year, 2016-2018)</li><li>Econometrics, with MATLAB (32 hours a year, 2015-2016)</li><li>Introduction to Bayesian Learning, with R (8 hours a year, 2017-2018)</li></ul> Supervision of long-run Master's students Machine Learning projects with companies (32 hours a year, 2015-2018): <ul style="list-style-type: none"><li>Search-engine improvement for the start-up Clustaar</li><li>French presidential elections predictions for the newspaper LePoint</li><li>Recommendation for personalized newsfeed for the MonsterMessenger app</li></ul>	<b>Oct. 2015–Oct. 2018</b> <i>Paris, France</i>
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### Industrial

<b>Research consultant</b> <i>Fentech</i> Development of algorithms for personalized recommendation.	<b>Jun. 2019–Present</b> <i>Paris, France</i>
<b>Data Scientist consultant</b> <i>Zebria (Jan. 2017–Sep. 2017)</i>	<b>Sep. 2015–Sep. 2017</b> <i>Paris, France</i>

Text-mining on data from patients suffering from chronic diseases: scraping, pre-processing with the nltk library, Word2Vec analysis.

*Temiseo (May 2016–Oct. 2016)*

Development of algorithms for vision tasks on images (detection and recognition of media device and logos with OpenCV and Keras, barcode detection and reading with zbar).

*The PriceHub (Sep. 2015–Jan. 2016)*

Implementation of a pricing algorithm for industrial mechanical parts.

### **Data Scientist intern**

**Jul. 2014–Sep. 2014**

*Over-Graph (909c agency)*

*Paris, France*

Optimization of strategies for marketing campaigns on Facebook.

## **Skills**

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**Languages:** French (native), English (fluent), Italian (intermediate).

**Programming:** Python, R, MATLAB (advanced), C++ (basic).

**Others:** Latex (advanced), HTML/CSS, D3.js (Javascript library for Dataviz).

## **Publications**

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- [1] *Maximum Mean Discrepancy Gradient Flow*. M. Arbel, A. Korba, A. Salim, A. Gretton. NeurIPS, 2019.
- [2] *Dimensionality Reduction for Bucket Ranking: A Mass Transportation Approach*. M. Achab\*, A. Korba\*, S. Cléménçon. ALT, 2019. (\*: equal contribution)
- [3] *A Structured Prediction Approach for Label Ranking*. A. Korba, A. Garcia, F. D'Alché-Buc. NeurIPS, 2018.
- [4] *On Aggregation in Ranking Median Regression*. S. Cléménçon, A. Korba. ESANN, 2018.
- [5] *Ranking Median Regression: Learning to Order through Local Consensus*. S. Cléménçon, A. Korba, E. Sibony. ALT, 2018.
- [6] *A Learning Theory of Ranking Aggregation*. A. Korba, S. Cléménçon, E. Sibony. AISTATS 2017.
- [7] *Controlling the distance to a Kemeny consensus without computing it*. Y. Jiao, A. Korba, E. Sibony. ICML 2016.

## **Invited Talks**

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- CFE-CMStatistics conference, London, December 2019.
- Stuttgart Workshop on Statistical Learning, Stuttgart, July 2019.
- Algorithmic Learning Theory (ALT), Chicago, March 2019.
- LAMSADE, Université Paris Dauphine, February 2019.
- Gatsby Computational Neuroscience Unit, University College London, August 2018.
- Laboratory for Computational and Statistical Learning (LCSL) seminar, Università di Genova, June 2018.
- Conférence sur l'Apprentissage Automatique (CAp 2018), INSA Rouen, June 2018.
- Journée des Statistiques (JDS18 - Ranking session), EDF Lab, May 2018.
- Machine Learning for Big Data Chair day, Paris, April 2018.
- Algorithmic Learning Theory (ALT), Lanzarote, April 2018.
- Statistics/Learning at Paris-Saclay (3rd edition), Institut des Hautes Etudes Scientifiques (IHES), Bures-sur-Yvette, January 2018.

- Discrete Structures In Machine Learning Workshop at NIPS 2017, Long Beach, December 2017.
- French Forum of Young Women in Mathematics, Institut Élie Cartan de Lorraine, Nancy, November 2017.
- France/Japan Machine Learning Workshop, École Normale Supérieure, Paris, September 2017.
- Machine Learning for Big Data Chair Day, Paris, May 2017.
- Junior Conference on Data Science and Engineering (JDSE 2016), Paris, September 2016.
- European Conference on Operational Research (EURO 2016 - Preference Learning Stream), Poznań, July 2016.
- International Conference of Machine Learning (ICML 2016 - Ranking session), New York, June 2016.
- Machine Learning for Big Data Chair Day, Paris, June 2016.

## Community

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- Co-organizer of the CSML (Computer Science and Machine Learning) seminar at UCL and of the Gatsby external seminar.
- Reviewer for NeurIPS, ICML, ACML, Statistics and Computing (Springer), DA2PL, JDSE.
- Participated to the *Machine Learning Summer School* (MLSS) 2017 in Tübingen (15 % success rate).

## Competitions and Awards

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2016: Best Communication award at *Junior Conference on Data Science and Engineering*.

2015: Ranked 6<sup>th</sup> as part of a team at the *Data Science Game 2015* international competition.