Anna Korba, PhD.
Machine Learning Researcher

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Education

Télécom ParisTech	**Oct. 2015–Oct. 2018**
Ph.D. in Machine Learning	*Paris, France*

Title: Learning from Ranking Data: Theory and Methods.
Supervisor: Stephan Clémençon.

ENS Cachan	**Sep. 2014–Jun. 2015**
Master of Sciences, First class honours	*Cachan, France*

Applied Mathematics for Computer Vision and Machine Learning.

ENSAE ParisTech	**Sep. 2012–Jun. 2015**
Master of Sciences, First class honours	*Paris, France*

Applied Mathematics, Advanced Statistics & Economics.

Lycée Henri IV	**Sep. 2009–Jun. 2012**
Classes préparatoires	*Paris, France*

Mathematics, Physics, Computer Science.

Professional Experience

Academic

Gatsby Unit, University College London	**Dec. 2018–Present**
Postdoctoral Research Fellow	*London, United Kingdom*

Laboratory of Pr. Arthur Gretton. My work is focused on learning theory, kernel methods and optimal transport.

Télécom ParisTech	**Oct. 2015–Oct. 2018**
Teaching assistant	*Paris, France*

- Practical sessions for Master's students:
  - Machine Learning, with Python (32 hours a year, 2016-Present)
  - Econometrics, with MATLAB (32 hours a year, 2015-2016)
  - Introduction to Bayesian Learning, with R (8 hours a year, 2017-Present)
- Supervision of long-run Master's students Machine Learning projects with companies (32 hours a year, 2015-Present):
  - Search-engine improvement for the start-up Clustaar
  - French presidential elections predictions for the newspaper LePoint
  - Recommendation for personalized newsfeed for the MonsterMessenger app

Industrial

Data Scientist consultant	**Jan. 2017–Sep. 2017**
Zebria	*Paris, France*

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

Data Scientist consultant	**May 2016–Oct. 2016**
Temiseo	*Paris, France*

Development of algorithms for vision tasks on images: detection of media device on images with OpenCV, ad and logo recognition with Keras, barcode detection and reading with zbar.

Data Scientist consultant **Sep. 2015–Jan. 2016**

Inter Action Consultants SAS *Paris, France*

Pricing of industrial mechanical parts with the k-nearest neighbors algorithm.

Data Scientist intern **Jul. 2014–Sep. 2014**

Over-Graph (909c agency) *Paris, France*

Prediction of the rate of engagement, including number of shares, likes, and comments of Facebook posts to recommend the best time to post for marketing campaigns, using a Neural Network.

Skills

- **Programming** : Python, R, MATLAB (proficient), C++ (Familiar).
- **Languages** : French (mother tongue), English (fluent), Italian (intermediate), German (beginner).
- **Others** : Latex, HTML/CSS, D3.js (Javascript library for Dataviz).

Publications

1. Mastane Achab, Anna Korba, and Stephan Clémençon. Dimensionality reduction and (bucket) ranking: a mass transportation approach. In *International Conference on Algorithmic Learning Theory (ALT)*, 2019
2. Anna Korba, Alexandre Garcia, and Florence d'Alché Buc. A structured prediction approach for label ranking. In *Advances in Neural Information Processing Systems (NeurIPS)*, 2018
3. Stephan Clémençon and Anna Korba. On aggregation in ranking median regression. In *European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning (ESANN)*, 2018
4. Anna Korba, Stéphan Clémençon, and Eric Sibony. Ranking median regression: Learning to order through local consensus. In *International Conference on Algorithmic Learning Theory (ALT)*, 2018
5. Anna Korba, Stephan Clémençon, and Eric Sibony. A learning theory of ranking aggregation. In *International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2017
6. Yunlong Jiao, Anna Korba, and Eric Sibony. Controlling the distance to a kemeny consensus without computing it. In *International Conference on Machine Learning (ICML)*, 2016

Other Research Activities

- Co-organizer of the CSML (Computer Science and Machine Learning) seminar at University College London (sponsored by Deepmind).
- Reviewer for NIPS, ICML, ACML, Statistics and Computing (Springer), DA2PL, JDSE.
- Participated to the two-week long *Machine Learning Summer School* (MLSS) 2017 in Tübingen, Germany (15 % success rate).

Competitions and Awards

- Best Communication award at *Junior Conference on Data Science and Engineering* 2016.
- Selected as part of a team in 2016 to work during a hackathon at *La Poste* (postal service company in France) on Optical Character Recognition on letters.
- Ranked 6th as part of a team at the *Data Science Game 2015* international competition.

Invited Talks

- 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, Universita 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 Elie Cartan de Lorraine, Nancy, November 2017.
- France/Japan Machine Learning Workshop, Ecole Normale Supèrieure, 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.