

Michaël Perrot

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Research interests

Machine Learning.

Main research interests in Machine Learning: Metric Learning, Transfer Learning, Representation Learning, Learning Theory.

Experience

Since 2017 **Post-doc researcher**, *Max Planck Institute for Intelligent Systems*, Tübingen, Germany.

- **Group** : Statistical Learning Theory
- **Group leader** : Ulrike von Luxburg
- **Keywords** : Comparison-based learning, Ordinal comparisons, Learning theory
- **Awards** : IJCAI 2019 Distinguished Paper Award for the paper “Boosting for Comparison-Based Learning”

Education

2013–2016 **PhD in Computer Science**, *Laboratoire Hubert Curien UMR CNRS 5516, Université Jean Monnet*, Saint-Etienne, France.

- **Supervisor** : Amaury Habrard
- **Subject** : Theory and Algorithms for Learning Metric with Controlled Behaviour
- **Keywords** : Metric learning, Learning theory
- **Defense** : December 13, 2016
- **Thesis committee** :
 - Stéphane CANU, INSA de Rouen, Rapporteur
 - Élisabeth FROMONT, Université de Saint-Étienne, Examinatrice
 - Liva RALAIVOLA, Aix-Marseille Université, Rapporteur
 - Marc TOMMASI, Université de Lille, Examineur, President
 - Kilian Q. WEINBERGER, Cornell University, Examineur
- **Awards** : Award of Excellence from the Fondation de l'Université Jean Monnet, Co-laureate of the Thesis Award of the Association Française pour l'Intelligence Artificielle (AFIA)

2011–2013 **MSc in Computer Science**, *Université Jean Monnet*, Saint-Etienne, France.

- **Speciality** : Web Intelligence
- **Keywords** : Apprentissage automatique, Exploration de données
- **Awards** : Award of Excellence from the Fondation de l'Université Jean Monnet

2008–2011 **BSc in Computer Science**, *Université Jean Monnet*, Saint-Etienne, France.

Seminars and Invited talks

- July 7, 2017 **Plate-forme Intelligence Artificielle (PFIA)**, Caen, France.
- **Title** : Learning Metrics with Controlled Behaviour
 - **Description** : Presentation of my PhD work before receiving the Thesis Award of the Association Française pour l'Intelligence Artificielle (AFIA).
- February 27, 2017 **Seminar on Statistics**, *Institut de Mathématiques de Marseille*, Marseille, France.
- **Title** : Learning Metrics with Controlled Behaviour
 - **Description** : Presentation of my PhD work.
- February 9, 2017 **Research Seminar *Machine Learning Theory***, *Eberhard Karls Universität*, Tübingen, Germany.
- **Title** : Learning Metrics with Controlled Behaviour
 - **Description** : Presentation of my PhD work to the team of Ulrike von Luxburg.

Teaching

- 2019 **Statistical Machine Learning**, *Eberhard Karls Universität*, Tübingen, Germany.
- **Tutorials** : Introduction to Machine Learning for master students in computer science or mathematics.
 - **Taught in** : English (24 hours).
- 2013–2015 **Design and Analysis of Algorithms**, *Master CIMET (Color in Informatics and Media Technology)*, *Université Jean Monnet*, Saint-Etienne, France.
- **Practicals** : Introduction to Python, Divide-and-Conquer algorithms, Dynamic Programming, Graphs algorithms.
 - **Taught in** : English (54 hours).
- 2014 **MeTeOR**, *Master WI (Web Intelligence)*, *Master MLDM (Machine Learning and Data Mining)*, *Université Jean Monnet*, Saint-Etienne, France.
- **Lectures, Tutorials** : Introduction to Logic programming (Prolog), Simplex algorithm.
 - **Practicals** : Introduction to Prolog.
 - **Taught in** : English (36 hours).
- 2013–2014 **Imperative Programming**, *BSc in Physics and Chemistry*, *Université Jean Monnet*, Saint-Etienne, France.
- **Tutorials, Practicals** : Introduction to Python.
 - **Taught in** : French (40 hours).
- 2013–2014 **Functional Programming**, *BSc in Computer Science*, *Université Jean Monnet*, Saint-Etienne, France.
- **Practicals** : Introduction to OCaml.
 - **Taught in** : French (40 hours).
- 2013 **Office Tools**, *BSc in Biology*, *Université Jean Monnet*, Saint-Etienne, France.
- **Practicals** : Word processing, Spreadsheet and Presentation applications.
 - **Taught in** : French (24 hours).

Other activities

Since 2016 **Reviewer.**

- **International conferences** : NeurIPS 2016, 2018, 2019 ICML 2018, 2019, IJCAI 2018, 2019.
- **International journals** : NCAA 2017, TKDE 2017, NECO 2019.
- **National conferences** : RJCIA 2019.

2018–2019 **SAB Evaluation**, *Statistical Learning Theory Group, Max-Planck-Institute for Intelligent Systems*, Tübingen, Germany.

Representative of the group in the organizing team of the SAB evaluation of the institute.

2015–2016 **PhD Seminars**, *Data Intelligence Team, Laboratoire Hubert Curien*, Saint-Etienne, France.

Co-organizer of seminars for and by the PhD students of the team.

2015–2016 **Additional Reviewer.**

- **International conferences** : ICML 2015, NeurIPS 2015, AISTATS 2016.
- **National conferences** : CAp 2015.

2015 **HCERES Evaluation**, *Laboratoire Hubert Curien*, Saint-Etienne, France.

Co-organizer of a PhD session during the evaluation of the laboratory by the HCERES (Haut Conseil de l’Evaluation de la Recherche et de l’Enseignement Supérieur).

2014–2015 **Conference Organization**, *Laboratoire Hubert Curien*, Saint-Etienne, France.

Member of the local organization team for CAp 2015 (60 participants) and IDA 2015 (70 participants).

Since 2014 **Conferences and Summer Schools Attendance.**

- **National summer schools** : EPAT 2014.
- **International summer schools** : MLSS 2014.
- **National workshops** : StatLearn 2016.
- **National conferences** : CAp 2014, 2015, 2016, PFIA 2017.
- **International conferences** : AISTATS 2014, ECCV 2014, ICML 2015, NeurIPS 2015, 2016, IJCAI 2019.

Languages

French Mother tongue
English CEFR level C1
German CEFR level A2

Cambridge CAE 77/100

Computer Tools

Programming Python, C, Java, Octave/Matlab, L^AT_EX
OS GNU/Linux, Windows

Publications

Peer-Reviewed International Conferences

- [1] Michaël Perrot and Ulrike von Luxburg. Boosting for comparison-based learning. In *Proceedings of the Twenty-Eighth International Joint Conference on Artificial Intelligence, IJCAI, Macao, China*, 2019. **Distinguished paper award, Oral presentation**, PDF.

- [2] Michaël Perrot, Nicolas Courty, Rémi Flamary, and Amaury Habrard. Mapping estimation for discrete optimal transport. In *Advances in Neural Information Processing Systems 29, NeurIPS, Barcelona, Spain*, pages 4197–4205, 2016. PDF.
- [3] Michaël Perrot and Amaury Habrard. Regressive Virtual Metric Learning. In *Advances in Neural Information Processing Systems 28, NeurIPS, Montreal, Canada*, pages 1801–1809, 2015. PDF.
- [4] Michaël Perrot and Amaury Habrard. A Theoretical Analysis of Metric Hypothesis Transfer Learning. In *Proceedings of the 32nd International Conference on Machine Learning, ICML, Lille, France*, pages 1708–1717, 2015. **Oral presentation**, PDF.
- [5] Michaël Perrot, Amaury Habrard, Damien Muselet, and Marc Sebban. Modeling Perceptual Color Differences by Local Metric Learning. In *Computer Vision - ECCV - 13th European Conference, Zurich, Switzerland*, pages 96–111, 2014. PDF.

Peer-Reviewed International Workshops

- [6] Leonor Becerra-Bonache, Élisabeth Fromont, Amaury Habrard, Michaël Perrot, and Marc Sebban. Speeding Up Syntactic Learning Using Contextual Information. In *Proceedings of the Eleventh International Conference on Grammatical Inference, ICGI, University of Maryland, College Park, USA*, pages 49–53, 2012. PDF.

Peer-Reviewed National Conferences

- [7] Michaël Perrot and Amaury Habrard. Bornes en généralisation à convergence rapide pour le transfert d’hypothèses en apprentissage de métriques. In *Conférence Francophone sur l’Apprentissage Automatique (CAp-16)*, 2016.
- [8] Michaël Perrot and Amaury Habrard. Apprentissage de métriques par régression. In *Conférence Francophone sur l’Apprentissage Automatique (CAp-15)*, 2015.
- [9] Michaël Perrot and Amaury Habrard. Transfert d’informations en apprentissage de métriques : une analyse théorique. In *Conférence Francophone sur l’Apprentissage Automatique (CAp-15)*, 2015.
- [10] Michaël Perrot, Amaury Habrard, Damien Muselet, and Marc Sebban. Modélisation de distances couleur uniformes par apprentissage de métriques locales. In *Conférence Francophone sur l’Apprentissage Automatique (CAp-14)*, 2014.

Preprints

- [11] Debarghya Ghoshdastidar, Michaël Perrot, and Ulrike von Luxburg. Foundations of comparison-based hierarchical clustering. *arXiv preprint arXiv:1811.00928*, 2018. PDF.