GILLES LOUPPE

PERSONAL INFORMATION

Born in Belgium, 26 April 1987

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SUMMARY

Researcher in machine learning. Toolsmith for science. My far ambition is to make a dent in science through data.

WORK EXPERIENCE

2014–Present Marie-Curie COFUND Research Fellow · *CERN (Switzerland)*

Machine learning and data analysis on text and bibliographic data.

2011–Present Open source software developer · *Scikit-Learn*

Benevolent core developer of Scikit-Learn, an open-source machine learning library written in Python.

2010–2014 F.R.S.-FNRS Research Fellow · *University of Liège (Belgium)*

Fundamental and applied research in machine learning and data analysis. Expertise in tree-based methods.

Teaching assistant (Introduction to Algorithmics, Data Structures and Algorithms, Machine Learning).

EDUCATION

2010–2014 PhD in Computer Sciences · *University of Liège (Belgium)*

Thesis: Understanding Random Forests – From Theory to Practice.

2008–2010 Master in Computer Sciences · *University of Liège (Belgium)*

Thesis: Collaborative Filtering – Scalable approaches using Restricted Boltzmann Machines.
Erasmus student at the Royal Institute of Technology (KTH), Sweden.
Summa cum laude.

2005–2008 Bachelor in Computer Sciences · *University of Liège (Belgium)*

Summa cum laude.

PAPERS

2015 [12] Scikit-learn: Machine Learning Without Learning the Machinery. Gael Varoquaux, Lars Buitinck, Gilles Louppe, Olivier Grisel,

Fabian Pedregosa, Andreas Mueller. GetMobile: Mobile Computing and Communications 19 (1), 29-33, 2015. [PDF]

[11] Solar Energy Prediction: An International Contest to Initiate Interdisciplinary Research on Compelling Meteorological Problems. Amy McGovern, David John Gagne II, Lucas Eustaquio, Gilberto Titericz Junior, Benjamin Lazorthes, Owen Zhang, Gilles Louppe, Peter Prettenhofer, Jeffrey Basara, Thomas Hamill, David Margolin. Bulletin of the American Meteorological Society, 2015. [PDF]

2014

[10] Understanding Random Forests: From Theory to Practice. Gilles Louppe. PhD thesis, University of Liège, 2010. [PDF, Code]

[9] Simple connectome inference from partial correlation statistics in calcium imaging. Antonio Sutera, Arnaud Joly, Vincent Francois-Lavet, Zixiao Aaron Qiu, Gilles Louppe, Damien Ernst, Pierre Geurts. [PDF, Code]

[8] Exploiting SNP Correlations within Random Forest for Genome-Wide Association Studies. Vincent Botta, Gilles Louppe, Pierre Geurts, Louis Wehenkel. PLoS ONE 9(4), 2014. [PDF, Code]

[7] A hybrid human-computer approach for large-scale image-based measurements using web services and machine learning. Raphael Marée, Loic Rollus, Benjamin Stevens, Gilles Louppe, et al. 11th IEEE International Symposium on Biomedical Imaging, Beijing, China, 2014. [PDF]

2013

[6] Understanding variable importances in forests of randomized trees. Gilles Louppe, Louis Wehenkel, Antonio Sutera, Pierre Geurts. NIPS, Lake Tahoe, United States, 2013. [PDF, Code]

[5] API design for machine learning software: experiences from the scikit-learn project. Lars Buitinck, Gilles Louppe, Mathieu Blondel, et al. ECML-PKDD 2013 Workshop: Languages for Data Mining and Machine Learning, Pragues, Czech Republic, 2013. [PDF, Code]

2012

[4] Ensembles on Random Patches. Gilles Louppe, Pierre Geurts. ECML-PKDD 2012, Bristol, UK, 2012. [PDF, Code]

2011

[3] Learning to rank with extremely randomized trees. Pierre Geurts, Gilles Louppe. JMLR: Workshop and Conference Proceedings, 14, 49-61, 2011. [PDF]

2010

[2] A zealous parallel gradient descent algorithm. Gilles Louppe, Pierre Geurts. Learning on Cores, Clusters and Clouds workshop, NIPS, Vancouver, Canada, 2010. [PDF, Code]

[1] Collaborative filtering: Scalable approaches using restricted Boltzmann machines. Gilles Louppe. Master's thesis, University of Liège, 2010. [PDF, Code]

TALKS

2015

[13] An introduction to Machine Learning with Scikit-Learn. CERN, Switzerland. April 23, 2015. [Materials]

[12] Tree models with Scikit-Learn: Great learners with little assumptions. PyData, Paris, France. April 5, 2015. [Materials]

[11] Machine Learning for Author Disambiguation. CERN,

Switzerland. March 3, 2015. [Materials]

2014

[10] Bias-variance decomposition in Random Forests. Paris Machine Learning Meetup 4 (saison 2), Paris, France. December 9, 2014. [Materials]

[9] Scikit-Learn in Particle Physics. Data Science Academic software: From scikit-learn and scikit-image to domain science, Paris, France. November 18, 2014. [Materials]

[8] Understanding Random Forests: From Theory to Practice. Liège, Belgium. October 9, 2014. [Materials]

[7] Accelerating Random Forests in Scikit-Learn. EuroScipy, Cambridge, UK. August 29, 2014. [Materials]

[6] Gradient Boosted Regression Trees in Scikit-Learn. PyData, London, UK. February 23, 2014. [Materials]

[5] Forecasting Daily Solar Energy Production Using Robust Regression Techniques. Atlanta, USA. February 5, 2014. [Materials]

2013

[4] Scikit-Learn: Machine Learning in the Python ecosystem. NIPS Workshop on Machine Learning Open Source Software, Lake Tahoe, USA. December 10, 2013. [Materials]

[3] Understanding variable importances in forests of randomized trees. NIPS, Lake Tahoe, USA. December 8, 2013. [Materials]

2012

[2] Ensembles on Random Patches. ECML, Bristol, UK. September 25, 2012. [Materials]

2010

[1] A zealous parallel gradient descent algorithm. NIPS Workshop on Learning on Cores, Clusters and Clouds, Whistler, Canada. December 11, 2010. [Materials]

SKILLS

Specialties Machine Learning, Statistics, Scientific Computing

Programming Python, C

OTHER INFORMATION

Awards

2010 – 2014 · F.R.S.-FNRS research fellow scholarship

2010 · Melchior Salier Award for best Master's Thesis

2010 · Baudouin Elleboudt Award for best Master's Thesis

Languages

French · Mothertongue

English · Fluent

Dutch · Basic

Interests Rowing · Cinema · Travel · Coffee · Vinyls

July 1, 2015