

# Ata Kabán – Curriculum Vitae

## OFFICE:

School of Computer Science  
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## EMPLOYMENT

- 2003 - present: The University of Birmingham, School of Computer Science, Birmingham, UK.  
Senior Lecturer (Professor from Aug 2018; Lecturer between Jan. 2003 – Sept. 2014).  
Research in high dimensional data mining & machine learning, large scale black-box optimization, probabilistic modelling; dimensionality reduction, random projections.  
Taught Machine Learning, Databases, Nature Inspired Optimisation.
- Feb. 2002 - Dec. 2002: Assistant Professor, Eotvös Loránd University of Budapest, Hungary.
- Feb. 2000 - Dec. 2001: Research Assistant (& PhD student), University of Paisley, Scotland.

## UNIVERSITY EDUCATION & DEGREES

- 2002: Ph.D. Computer Science, University of Paisley, Scotland, UK  
Advisor: Prof. Mark Girolami  
Thesis: *Latent Variable Models with Applications to Text Based Document Representation*
- 1999: BSc Computer Science, University Babes-Bolyai Cluj-Napoca, Romania.
- 2000: Ph.D. Musicology, Academy of Music "Gh. Dima", Cluj-Napoca, Romania  
Advisor: Prof. Dan Voiculescu  
Thesis: *Algebraic Elements in the 20-th Century Musical Thinking*

## HONORS & AWARDS

- PI - EPSRC Fellowship EP/P004245/1 "FORGING: Fortuitous Geometries and Compressive Learning", 9 Jan 2017 - 8 Jan 2022 (GBP 1,096,074 of which EPSRC's contribution is GBP 876,859).
- PI - MRC Discipline Hopping Award, "Generative-discriminative Hybrids for Disease Prediction and Cell Communication modelling", Sept 2008 - Sept 2009 (GBP 123,435)
- Co-I - PPARC grant "Designer algorithms for Astronomical Data Mining" (grant holders: Trevor Ponman (PI), WJ Chaplin, S Raychaudhury, I Stevens (School of Physics & Astronomy), E Claridge, A Kaban, AP Sexton, P Tino, X Yao (School of Computer Science)), 2005-2008 (GBP 152,209.86)
- PI - Wellcome Trust VIP award (2005) (CO-I: P. Tiño) (GBP 11,927.46)
- Royal Academy of Engineering - International Travel Grant Award (GBP 500)
- Best-paper awards and nominations received at international conferences:
  - Best paper nomination at PPSN 2016
  - Runner-up student paper award at CEC 2015
  - Best paper award at GECCO 2013, EDA/GDS track
  - Best paper award at ACML 2013
  - Best student paper award at ICPR 2010, Pattern Recognition and Machine Learning tracks
- 1999: Graduation with Distinction, University "Babes-Bolyai" of Cluj-Napoca, Romania, Department of Mathematics and Informatics;  
2-nd Prize at the National Scientific Conference of Undergraduates (OTDK) awarded by the Technical University of Budapest, Hungary.

## PROFESSIONAL SERVICE

- Associate member of the EPSRC Peer Review College (2016-)
- Co-chair of the Task Force on High Dimensional Data Mining of the IEEE Computational Intelligence Society (CIS), since its foundation in 2014
- Member (by invitation) of the Data Mining and Big Data Analytics Technical Committee of the IEEE CIS for 2014, 2017, and 2018, the Data Mining Technical Committee of IEEE CIS for 2013, and member of the IEEE CIS Task Force on Data Mining in Industrial Applications (2014-15)
- Proposer & organiser of the 1st ICDM Workshops on High Dimensional Data Mining (2013), and its 6 consecutive editions (2013-2018).
- Co-organiser (with Profs Kai Ming Ting and Takashi Washio) of the Shonan meeting "Data Dependent Dissimilarity Measures" at the Shonan Village Center, October 15-18, 2018.
- Associate editor / Editorial board member for Neural Processing Letters (2016-), Scientific World journal: Probability and Statistics (2013-2015).
- Guest editor of the Neurocomputing journal Special Issue on "Learning with label noise" (2014), and of the Computers journal Special Issue on "Combining Learning and Optimisation" (2015).
- Vice Program Chair for the 15th IEEE International Conference on Computer and Information Technology (CIT'15), Liverpool, UK.
- Programme Committee member for > 50 conferences, regularly including: AISTATS, NIPS, ICML.

## 5 REPRESENTATIVE PUBLICATIONS

- Kabán, A., Bootkrajang, J., Durrant, R.J. (2016) *Towards Large Scale Continuous EDA: A Random Matrix Theory Perspective*. **Evolutionary Computation**, Vol. 4, Issue 2, pp. 255-291, MIT Press.
- Durrant, R.J., Kabán, A. (2015) *Random projections as regularizers: learning a linear discriminant from fewer observations than dimensions*. **Machine Learning**, Vol. 99, Issue 2, pp. 257-286, Springer.
- Kabán, A. (2014) *New Bounds on Compressive Linear Least Squares Regression*. The 17-th International Conference on Artificial Intelligence and Statistics (**AISTATS**), Reykjavik, Iceland, April 22-25. Proceedings of Machine Learning Research, Vol. 33, pp. 448-456.
- Kabán, A. (2013) *Fractional-norm Regularization: Learning with Very Few Relevant Features*. **IEEE Transactions on Neural Networks and Learning Systems**, Vol. 24, Issue 6, pp. 953-963.
- Kabán, A. (2012) *Non-parametric Detection of Meaningless Distances in High-Dimensional Data*. **Statistics and Computing**, Vol. 22, Issue 1, pp. 375-385.

## EXTERNAL INVITATIONS AND RESEARCH TALKS

- Invited speaker at "Labelnoise'2017" (Workshop on Label Noise Problems in Statistics, Machine Learning and Classification), 30 November - 1 December 2017, Nancy, France.
- Invited Colloquium Talk & short stay at Heidelberg Institute for Theoretical Studies, Germany, 18-19 September 2017. Talk title: From Random Projections to Learning Theory to Algorithms and Back.
- Invited Colloquium Talk at Hong Kong Baptist University, 19 November 2015. Talk title: On the Curses and Blessings of High Dimensionality in Data Mining.
- Invited participation at NII Shonan Meeting on "Dimensionality and Scalability II: Hands-on Intrinsic Dimension", Tokyo, Japan, 29 June - 2 July, 2015.
- Invited Talk at the Lorentz Center, Leiden, Netherlands - Workshop on Computational Astrostatistics - 27-31 January 2014. Talk Title: Learning from Little Data.
- Invited Talk at Max Planck Institute for the Physics of Complex Systems - Workshop on Statistical Inference: Models in Physics and Learning (SIMPLE'12) - 23-26 September 2012. Talk title: Learning and Regularisation with Random Projections.
- Invited participation at Schloss Dagstuhl seminar on Information Visualisation, Visual Data Mining and Machine Learning - 19-24 February 2012.
- Invited Talk at the "Research Kitchen on deterministic approaches to approximate Bayesian inference", Bath, UK (organiser: Prof. Havard Rue) - 7-8 May 2007. Talk title: Two Applications of Variational Inference: Astrophysics and Gene Expression Analysis.
- Invited Talk and 2 weeks visit at Helsinki Institute for Information Technology Basic Research Unit, Department of Computer Science, The University of Helsinki, Finland - 20 September 2005.
- Invited seminar talk and 5 weeks laboratory visit Helsinki University of Technology - July-August 2003.