

# Mehdi Bahri *PhD Student in Machine Learning*

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## Education

- Imperial College London** LONDON, UNITED KINGDOM  
**PhD. Machine Learning** 2017 – (2021)  
Bayesian non-parametrics, geometry, and deep learning with applications to Computer Vision.  
*Full scholarship* from the Department of Computing (EPSRC funding). *Supervisor: Dr Stefanos Zafeiriou.*
- MSc. Advanced Computing - Distinction (84%)** 2015 – 2016  
Focus on statistical machine learning.  
*Awarded the Winton Capital Computing MSc Project Prize for best thesis in Computer Science (1/188 students).*
- Grenoble INP - Ensimag** GRENOBLE, FRANCE  
**BSc. and MSc. Applied Mathematics and Computer Science - with High Honours** 2010 – 2016  
Focus on statistics, numerical optimization, numerical analysis, databases, software engineering.  
2010 - 2013: *Classes Préparatoires aux Grandes Écoles PC\* - Lycée Chateaubriand, Rennes, France.*
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## Professional Experience and Selected Projects

- Speechmatics (Cantab Research Ltd.) - Speech Recognition Intern** CAMBRIDGE, UNITED KINGDOM  
**Research & Development** 04/17 - 07/17  
Improving the RNN language models by implementing research papers in TensorFlow and C++.  
Divided model size by 4 while keeping the same cross-entropy loss / perplexity and WER.
- HarperCollins Publishers - Data Scientist** LONDON, UNITED KINGDOM  
**Global Pricing and Analytics** 09/16 - 03/17  
Graph mining and influence maximization to maximize uplift of books on special offers.  
Analyzed MongoDB databases of more than 100Gb with scikit-learn and networkx.
- Imperial College - Master's Thesis** LONDON, UNITED KINGDOM  
**Robust Low-Rank Modeling on Tensors: New Algorithms and Extensive Comparisons** 04/16 - 09/16  
Devised 4 ADMM solvers and a Variational Bayes algorithm for robust tensor factorizations (extensions of matrix factorizations) in MATLAB. Compared against 11 state-of-the-art methods on computer vision benchmarks, analyzed 500Gb of experimental data, and showed improvements of up to 16% higher PSNR and FSIM. Published in top venue. *Supervisors: Dr Stefanos Zafeiriou & Dr Yannis Panagakis.*
- Morgan Stanley - Summer Analyst (Tech & Data)** LONDON, UNITED KINGDOM  
**Full-stack development of a trade control system prototype** 06/15 - 09/15  
Software engineering (Java, Javascript, git flow, legacy code, tests, architecture design).  
Presented at the global meeting of the sub-department, project continued for integration into production.
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## Publications

- M. Bahri, Y. Panagakis, and S. Zafeiriou, "Robust Kronecker-Decomposable Component Analysis for Low Rank Modeling" in International Conference on Computer Vision (ICCV) 2017
  - N. Xue, G. Papamakarios, M. Bahri, Y. Panagakis, and S. Zafeiriou, "Robust Low-rank Tensor Modelling Using Tucker and CP Decomposition" in European Signal Processing Conference (EUSIPCO) 2017
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## Skills

	Computing skills	Languages
Programming ( <i>advanced</i> )	Python, Java, C, Shell	French <i>Native</i>
Programming ( <i>intermediate</i> )	SQL, Javascript, Prolog, C++	English <i>Fluent</i>
Modeling	MATLAB, R, NumPy/SciPy, TensorFlow, Scikit-learn	Spanish <i>Intermediate</i>
Tools	Git, L <sup>A</sup> T <sub>E</sub> X, MongoDB	

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## Interests

Fitness, Nutrition • Elected Student Representative, *Ensimag* • Morgan Stanley Campus Ambassador, *Ensimag*

REFERENCES AVAILABLE UPON REQUEST.