

# Theo PAVLAKOU

## PERSONAL DATA

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## WORK EXPERIENCE REFERENCES AVAILABLE ON REQUEST

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| JUL 2016<br>- SEP 2016 | <b>Software Engineer Intern</b><br><b>Google, Zurich, Switzerland</b><br>In the Shopping Traffic Estimation team. Modelled time series data using Bayesian modelling techniques and probabilistic programming (STAN) to see whether changes that were made in the titles of certain offers affected the metrics of interest (e.g. CTR). This required the development of data pipelines to process the data into a more usable format and to filter out data that did not satisfy certain criteria. Data sets from four experiments were modelled and the effects of the changes made in each case were quantified with uncertainty estimates. |
| JUL 2013<br>- SEP 2013 | <b>Software Development Engineer Intern</b><br><b>Amazon, Seattle, WA, USA</b><br>On Amazon Instant Video team for device playback. Wrote client-side features to make video streaming more robust to errors. Also enhanced visual tools to analyse performance of CDNs that devices streamed from.  |

## EDUCATION

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| SEP 2015<br>- Present  | <b>PhD Candidate in Machine Learning</b><br><b>The University of Edinburgh</b><br>Topic: <i>"Developing Tractable Density Estimator Models"</i><br>  Supervisor: Dr. IAIN MURRAY   |
| SEP 2014<br>- AUG 2015 | <b>MSc by Research in Data Science</b><br><b>The University of Edinburgh</b><br>Distinction - <b>88.61%</b><br>Thesis: <i>"Large Scale Optimisation Algorithms for Machine Learning"</i><br>  Supervisor: Dr. PETER RICHTÁRIK<br>Subjects include: Machine Learning & Pattern Recognition, Text Technologies, Probabilistic Modelling & Reasoning, Information Theory, Advanced Databases.   |
| OCT 2010<br>- JUL 2014 | <b>MEng Electrical &amp; Electronic Engineering</b><br><b>Imperial College London</b><br>First Class Honours - <b>81.47%</b> (Top 5% of Year)<br>Thesis: <i>"Finding Events in Twitter Data using Sparse PCA"</i><br>  Supervisor: Dr. MOEZ DRAIEF<br>Subjects include: Digital Signal Processing, Machine Learning for Computer Vision, Probability & Stochastic Processes, Optimisation, AI, Intelligent Data & Probabilistic Inference, Wavelets & Applications, Computational Finance, Advanced Signal Processing, Algorithms & Data Structures. |

## TECHNICAL SKILLS

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Programming: JAVA, Python (+Theano), C++, STAN, Matlab, SQL, HTML, CSS  
Programming Tools: Terminal, Git, Eclipse, Sublime, Atom, Vim, XCode  
Methodologies: Design Patterns, Agile, TDD, Code Reviewing, Version Control  
Office Tools: Latex, Gimp, Excel, Word, PowerPoint  
Operating Systems: Mac OSX, LINUX (Ubuntu), Microsoft Windows

## ACHIEVEMENTS

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- SEP 2015 MSc by Research in Data Science Dissertation Prize Award, The University of Edinburgh
- JUL 2014 Henry Ford II Scholar Award for best examination results in final year, Imperial College London
- Dean's List for Academic Achievement, 3 years, Imperial College London
- JUL 2012 CGCA Student Activity Award, Imperial College London Student Union
- JUL 2009 Top student of the year for Maths, Physics & Drama, American Academy Larnaca

## MAJOR PROJECTS

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- 2016 (PhD, Edinburgh) Working on multivariate density estimation models using neural networks. This requires developing new architectures and re-implementing many state-of-the-art models (e.g. NICE, Real-NVP, NADE, RNADE, etc.). All done in Python/Theano.
- 2015 (Thesis for MSc by Research, Edinburgh) Implemented many modern optimisation algorithms in Python (SAGA, SVRG, SDCA) and tested them on convex problems (logistic regression) and also on non-convex problems (neural networks). This required skills in Machine Learning, Convex Optimisation, Probability and Design Patterns.
- 2014 (Final year project, Imperial) Built an application in Python to detect events using only Twitter data in a streaming fashion using Sparse PCA. This involved Machine Learning, Data Preprocessing, Linear Algebra, etc.
- 2013 (Third year group project, Imperial) Built an application in C++ using various open source libraries to detect differences between the movement in two people using the Kinect as the input data. Combined skills in Software Engineering Design, Machine Learning, Signal Processing and more.

## INTERESTS AND ACTIVITIES

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- OCT 2012 **Imperial Entrepreneurs Vice President of Events**
- JUL 2013 Helped to organise some of the most popular events known to Imperial and even inter-university events with other entrepreneur clubs. The Imperial Entrepreneurs Society is very active on campus and puts on many competitions to provide a platform to young business-minded individuals to materialise their ideas.
- DEC 2011 **TEDxImperialCollege**
- APR 2012 Was part of a team to organise one of the most successful TEDx event at Imperial College London, which had sold out the largest lecture theatre in the university of 800 people and had videos on the front page of the TED website. This included finding and securing sponsorship, budgeting and managing how the finances were spent. It also included meeting up weekly to address any concerns that may have been raised.
- 2007 **Band**
- 2010 Played in a band that became very successful in Cyprus and also got invited to play in Austria and Greece. Made two albums and had lots of merchandise.

## LANGUAGES

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- ENGLISH: Mothertongue
- GREEK: Advanced
- BRAZILIAN PORTUGUESE: Advanced
- SPANISH: Lower Intermediate (Level 2 Qualification)