

# DIONYSIOS T. MANOUSAKAS

**Home** Darwin College, University of Cambridge,  
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## EDUCATION

- **PhD in Computer Science, Department of Computer Science and Technology, Darwin College, University of Cambridge, Oct. 2016 - present.**

Research Topic: *Privacy-aware Learning on Users Data Summarizations*

Supervisor: Prof. Cecilia Mascolo

Internal Examiners: Dr Pietro Liò and Dr Thomas Sauerwald

First year report successfully defended in September 2017

- **MSc in Machine Learning, University College London, Distinction, Nov. 2015.**

Modules: Programming & Mathematical Methods for Machine Learning, Supervised Learning, Probabilistic & Unsupervised Learning (Gatsby Unit), Applied Machine Learning, Bioinformatics, Advanced Topics in Machine Learning (Reinforcement Learning and Kernel Methods), Information Retrieval and Data Mining, Affective Computing and Human-Robot Interaction

Dissertation: *Longitudinal Analysis of International Trade Data based on Network Theory and Machine Learning*

Supervisors: Dr Michael T. Schaub (Imperial College London) and Prof. Shi Zhou

- **Diploma in Electrical & Computer Engineering, National Technical University of Athens (5-years degree), GPA: 8.66/10.0 - Top 8%, Sept. 2014.**

Major in Control, Systems and Computer Science

Final year dissertation: *Decentralized Reconfigurable Multi-Robot Coordination from Local Connectivity and Collision Avoidance Specifications*

Supervisor: Prof. Kostas J. Kyriakopoulos

- **Agios Stefanos High School, Greece, June 2007 (GPA: 19.9/20.0)**

## INTERNSHIPS & EMPLOYMENT

**-Research Intern at the Max Planck Institute for Software Systems, Kaiserslautern & Saarbrücken, Germany, May 2018 - Aug. 2018**

Research on privacy loss caused by information diffusion over networks, using multidimensional temporal point processes.

Stipend awarded by MPI.

Advisor: Dr. Manuel Gomez-Rodriguez

**-Research Intern at Nokia Bell Labs, Cambridge, UK, Aug. 2017 - Oct. 2017**

Research project on spatiotemporal modeling of population's activity, as member of the Internet of Things group. Patent submitted, paper under preparation

**-Quantitative Analyst Intern at Smartodds, London, UK, Apr. 2016 - Oct. 2016**

Statistical analysis and development of machine learning methodologies, probabilistic modeling, ensembling techniques and software for predictions and betting in football and tennis.

**-Data Scientist at Mentat Innovations**, Athens, Greece, *Sept. 2015 - Jan. 2016*  
Development of machine learning algorithms and software for on-the-fly analysis of streaming data. Real data domains include cybersecurity, financial forecasting, energy demand forecasting, fraud detection, recommender systems, and network traffic monitoring.

RESEARCH  
INTERESTS

Machine Learning, Network Analysis & Complex Systems, Data Mining, Recommendation Systems, Privacy, Control Theory, Reinforcement Learning, Information Theory, Adaptive and Intelligent Systems, Stochastic Systems, Robotics

PUBLICATIONS

- Dionysis Manousakas, Cecilia Mascolo, Alastair R. Beresford, Dennis Chan, Nikhil Sharma *Quantifying Privacy Loss of Human Mobility Graph Topology*, Proceedings on Privacy Enhancing Technologies, Volume 2018(3): 5-21 (2018)
- Students of the course Parallel Processing Systems School of Electrical & Computer Engineering National Technical University of Athens, *Parallelizing the Floyd-Warshall Algorithm on Modern Multicore Platforms Lessons Learned*, 5th National Conference of Electrical and Computer Engineering Students, Xanthi, Greece, 2012

TEACHING  
EXPERIENCE

- Supervisor of Part II Computer Science Tripos Project on *Traffic Monitoring under Differential Privacy* (Shubham Aggarwal, Churchill College), 2018-19
- Supervisor in *Machine Learning and Bayesian Inference* (Peterhouse, St. John's, Christ's, Robinson, Queen's and Wolfson College), Part II Computer Science Tripos, Lent term 2018
- Supervisor in *Machine Learning and Real-world Data* (Gonville & Caius, Trinity Hall and Robinson College), Part IA Computer Science Tripos, Lent term 2017
- 2 hours Tutorial on Network Analysis Software, taught in *Social and Technological Network Data Analytics*, Advanced Computer Science MPhil, Lent term 2017

HONORS &  
AWARDS

- 2018 **Ford Foundation Travel Stipend**, 18<sup>th</sup> Symposium on Privacy Enhancing Technologies, Barcelona, Spain
- 2016 **Dean's List for Outstanding Academic Performance 2014/15**, Faculty of Engineering, University College London
- 2007 **EFG-Eurobank Honorary Plaque 'The Great Moment for Education'** awarded by the President of Democracy for achieving the highest score in Greece's National Higher Education Entrance Examination amongst examinees in Attica (19,809/20,000). Ranked **2nd** nationwide over **33,174** candidates majoring in **Technology**. Ranked in **top-5** highest scores nationwide among  $\approx$  **93,000** candidates over **all specializations**.
- 2007 **Georgios K. Kontaxis Award** for ranking 4th in Qualifying Examination for the School of Electrical & Computer Engineering, National Technical University of Athens
- 2001-2007 **6 Double Honorary Diplomas from the Greek Ministry of Education** for excellence in my studies during the years of secondary education

COMPUTER  
SKILLS

- Programming – Python, R, MATLAB, Mathematica, C/C++, Java, Julia, ML, Prolog, Hadoop, Apache Spark, Keras, TensorFlow, Torch
- IT Literacy –  $\LaTeX$ , Linux, PGF/TikZ, git, SQL, Excel

EXPERIENCE IN  
DATA PROBLEMS

- Participation in Kaggle challenges: Leaf Classification, Click-Through Rate Prediction, Driver Telematics Analysis, Sentiment Analysis on Movie Reviews, Bike Sharing Demand

- Projects on Machine Learning problems, including: Political Opinion Detection on Twitter, Automatic Recognition System for Bimodal Detection of Guarding/Stiffness used for Chronic Low Back Pain Rehabilitation, Prediction of Subcellular Location of Eukaryotic Proteins, Monte-Carlo Control and Temporal Difference Learning in Card Games, Anomaly Detection on Streaming Data, Models Stacking and Averaging for Predictions in Sports
- Coursework on state-of-the-art Machine Learning techniques, including: HMMs, Mixture Models, Latent Variable Models, Graphical Models, Gaussian Processes, Kernel Methods, Deep Neural Networks

LINGUISTIC  
SKILLS

Greek (native), English (fluent - IELTS 8.0/9.0, TOEFL 104/120, ECPE), Spanish (conversant - DELE B2), German (basic - Mittelstufe/C1)

CONFERENCES  
ATTENDED

- 1<sup>st</sup> UK Mobile, Wearable and Ubiquitous Systems Research Symposium, Computer Laboratory, Cambridge, UK, September, 2018
- 18<sup>th</sup> Symposium on Privacy Enhancing Technologies, Barcelona, Spain, July 2018
- Course on Complex Networks and 2nd Symposium on Spatially Embedded Networks, Oriol College, Oxford, UK, September 2017
- 10th ACM International Conference on Web Search and Data Mining, Cambridge, UK, February 2017
- 3rd National Conference of Electrical and Computer Engineering Students, Thessaloniki, Greece, May 2010
- 2nd National Conference of Electrical and Computer Engineering Students, Athens, Greece, May 2009

REFERENCES

Available upon request

MILITARY  
SERVICE

11/2012 - 08/2013 : Fulfilled mandatory 9 month service as soldier and office assistant at the Hellenic National Guard Artillery

LEISURE  
INTERESTS

Cinema, Literature, Hiking, Tango  
President of CU Darwin College Film Club, Member of CU Algorithmic Trading Society

FURTHER  
EDUCATION

**COURSERA** Game Theory (with Distinction), Bioinformatics Algorithms - Part I (with Distinction), Computational Investing - Part I, Machine Learning, Control of Mobile Robots (with Distinction), Computational Neuroscience, Unpredictable? Randomness, Chance and Free Will

**edX** Introduction to Probability - The Science of Uncertainty, Big Data and Social Physics