

# Yanni Papandreou

## Education and Research

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### Imperial College London

#### PhD Mathematics Research

2019-Present

Section: Statistics, Supervisor: Dr Andrew Duncan, Co-supervisor: Dr Jon Cockayne

Research interests: Kernel-based methods for inference of complex models, Gaussian Processes, Machine Learning, Bayesian Modelling of Differential Equations

### Imperial College London

#### MSc Statistics

2018-2019

Grade: **Distinction** (85.7%)

- **Winton Capital Prize** awarded for best MSc Statistics student (top of class)

Thesis: Kernel-Based Inference Methods for Ordinary Differential Equations (awarded a **distinction**: 84.5%):

### University of Cambridge

#### BA Mathematics

2015-2018

Grade: **High 1st Class Honours** (76%)

- **Georges Lemaitre Prize** awarded for achieving the highest mark in the Maths Tripos at St Edmund's College

## Research and Coursework

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### MSc Thesis: Kernel-based Inference Methods for Ordinary Differential Equations

- Investigated the use of Maximum Mean Discrepancy for parameter inference in generative models based on ODEs.
- In particular, studied an adjoint method for gradient descent in high-dimensional parameter spaces.

### MSc Coursework

- Sampling methods such as inverse transform, rejection sampling, and MCMC methods including Metropolis-Hastings and Gibbs samplers (achieved a distinction grade of 82.9% on Computational Statistics coursework)
- Advanced simulation methods including particle filtering methods (achieved a distinction grade of 80.5% on Advanced Simulation Methods coursework)
- Machine Learning algorithms including: fitting models using Gaussian Processes, binary classification using methods such as logistic regression and generative linear classifiers and PCA (achieved a distinction grade of 83.5% on Machine Learning Coursework)
- Time series modelling

## Work Experience

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### Arabesque AI - Research Intern

Aug-Nov 2021

- Investigated approaches for Market Regime Detection utilising Change-point Detection (CPD) algorithms
- In particular, looked at a kernel CPD algorithm which maps time-series into a high-dimensional feature space in order to detect arbitrary changes in distribution for the original time-series

### GTA and Tutoring:

- Graduate Teaching Assistant helping out at tutorials for Maths undergrads and MSc Stats students (since October 2019)
- Online maths tutor with MyTutor UK and Keystone Tutors (since September 2018)

**Cypriot National Guard:** 18 months conscription; Last 3 months of my service I worked in my Captain's office where I was in charge of making schedules for my guard post (2013-2015)

## Awards

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- **MSc Stats Challenge:** First place winning team in the annual Imperial College MSc Stats challenge where we had to fit a model to noisy financial time-series data in order to optimize the Residual Sum of Squares. Our algorithm later went on to be in the top bracket of Auquan's spring challenge competition.
- **Highest International Subject Mark** (2013): A Level Maths
- **Highest Subject Mark in Cyprus** (2013): A Level Further Maths and Physics
- **Highest International Subject Mark** (2011): IGCSE Maths, Chemistry and Geography
- Consistently received scholarships throughout highschool for being in top 3 of year (came joint first in final year)

## Skills

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**Computing:** Julia (proficient), Python (proficient), MATLAB (proficient), R (proficient), LaTeX (proficient), C++ (novice), Git (novice) Excel (novice)