Pantelis Tassopoulos

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RESEARCH INTERESTS **Probability Theory, Stochastic analysis, Stochastic Partial Differential Equations**

EDUCATION

University of Cambridge Oct 2024-present

- PhD in Pure Mathematics

- I will be pursuing a PhD in Probability Theory, studying a notion of universality encompassing a large class of random growth processes in the plane, namely, KPZ universality, under the supervision of Dr Sourav Sarkar.

University of Cambridge Oct 2023-June 2024

- Part III of the Mathematical Tripos with a focus in Pure Mathematics

- Graduated with a Distinction

Imperial College London 2020-2023

- BSc in Mathematics

- Graduated with First Class Honours, ranked consecutively 1st in all years

- Participated in the Rowing, Investment, Hellenic, and Social Dancing societies

St. Catherines' British School 2005–2020

- International Baccalaureate Programme Diploma (IBDP), 42/45

RESEARCH EXPERIENCE

Undergraduate Research Experience (UROP) | Imperial College London June–Sept. 2023
I participated in a funded undergraduate research program under the supervision of Professor Grigorios Pavliotis in the mathematical analysis of machine learning algorithms. I performed numerical experiments training neural networks under various circumstances, thereby gaining practical insights, which can be found in the 'Imperial-UROP-Project-SGD' repository in my github page above.

Undergraduate Research Experience (UROP) | Imperial College London July–Sept. 2022
I participated in an undergraduate research program in pure mathematics supervised by Senior Lecturer in Pure Mathematics Dr. Davoud Cheraghi, combining aspects of geometric function theory and stochastic processes. This led to the study, both analytically and numerically, of the so-called conformally balanced trees. A computational investigation thereof can be found in the 'Computational-Geometry' repository in my github page listed above.

WORK EXPERIENCE

Undergraduate Teaching Assistant | Imperial College London Oct 2022–March 2023
I was a teaching assistant in first-year courses in analysis and calculus. I had the responsibility of conducting demonstrations and coordinating problem-solving sessions.

Systematic Fund | Queen Tower Capital November 2021–June 2022
I was a member of the systematic fund in the undergraduate student-run investment fund Queen Tower Capital, under the Imperial College Investment Society.

Data Management and Analytics Internship | Piraeus Bank June–September 2021
I shadowed a data analyst and was introduced to the operations of the bank. Also, I learned the basics of the SQL language and was shown how to extract and analyse data from partners and clients in large databases utilising various professional statistical techniques. I also Identified, analyzed and interpreted trends or patterns in complex data sets by finding correlations and creating visualizations with charts.

HONORS AND AWARDS		
	Governors' BSc Prize in Mathematics	September 2023

I have been awarded the Governors' BSc Prize in Mathematics, awarded to the best performing BSc student in Mathematics at the final examinations.

Hellenic Union of Shipowners' Scholarship July 2023

I was awarded a scholarship worth €15,000 covering university tuition and maintenance costs by the Hellenic Union of Ship Owners to pursue my postgraduate studies at Cambridge University in Pure Mathematics.

Onassis Foundation Scholarship July 2023

I was awarded a scholarship worth £11,000 covering university tuition and maintenance costs by the Onassis Foundation to pursue my postgraduate studies at Cambridge University in Pure Mathematics.

Second Year Prize for Excellence in Mathematics | Imperial College London 2022

The annual award to students in the second year of the undergraduate course in Mathematics for excellence in Mathematics. £100

First Year Prize for Excellence in Mathematics | Imperial College London 2021

I was awarded a bursary for the best-performance in the first-year final mathematics examinations. £100

FUNDING

Cambridge International Scholarship February 2024

This is a full scholarship on the recommendation of the University's selection committee for Cambridge International Scholarships. These scholarships are provided by the Cambridge Commonwealth, European and International Trust (www.cambridgetrust.org), which is a charity established by the University to support international students.

For the tenure of my PhD, the Cambridge International Scholarship will cover:

- University Composition Fee in full

- Living expenses at the Trust's rate of £19,240 a year (2024-25 rate), reviewed annually

- Immigration Health Surcharge

Department of Mathematics Bursary EPSRC Vacation Bursary | Engineering and Physical Sciences Research Council (EPSRC) April 2023

I was awarded a bursary of £3024 to pursue a project entitled: Stochastic gradient descent and the training of neural networks under the supervision of Professor of Applied Mathematics Gregorios Pavliotis.

Department of Mathematics Bursary | Imperial College London May 2022

For pursuing a project in random constructions in mathematics with Senior Lecturer in Pure Mathematics Davoud Cheraghi. £1250

PUBLICATIONS **Brownian Motion & The Stochastic Behaviour of Stocks (Journal Article)** 2021

In this paper, we explore the historical origin of Brownian motion, as motivation for a mathematically precise formulation. We examine some of its applications in financial markets as a model for uncertainty in the price of a stock. This leads to the concept of a stochastic differential equation which can be formulated rigorously, culminating in the construction of the Itô integral. We also do backtesting of the aforementioned model with historical data from Apple and derive a correlation coefficient.

TECHNICAL SKILLS

- Programming Languages: Python, R, Java, SQL.

- Technical Software: MATLAB, LaTeX.

- Can deftly use Microsoft and macOS, PowerPoint, Excel, Word.

English

- Native or bilingual proficiency, medium of instruction at Imperial College London.

Greek

- Native or bilingual proficiency, achieved C1 Level Ellinomatheia.

French

- Limited Working Proficiency, achieved Levels DELF A2, B1 and B2.

Mentors

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