Dr Georgios Giasemidis

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Work Experience

Apr. 2022 – present **Lead Data Scientist**, *Choreograph, WPP*, London
Data science and model building of complex systems focusing on *Agent Based Modelling (ABM)* simulations and "what if" scenarios, ML, *geo-spatial data science*, and *generative AI* in Python ecosystem with applications in marketing and advertising.

- Line management; guide team members in technical skill development and domain expertise.
- Rapid ML, Geo-Spatial, ABM model development for pitches. Stakeholder management; liaising with product, engineering, data science and agency teams.
- Data Science lead of ABM products. Management of a full-stack team of developers, engineers, and designers.
- Developing a new parallelisation platform for ABMs utilising Ray parallelisation framework.
- Agentic GenAI prototypes and solutions, such as
  - A prototype chatbot that answers data questions from a tabular dataset utilising text-to-sql capabilities. Democratised and *accelerated the data discovery and analytics from hours to minutes*.
  - A prototype simulation environment for digital personas reacting to marketing messages utilising LLM agents.
- Consulting on data science projects and providing solutions across the organisation.
- Public speaker at conferences and workshops.
- Founding member of the organisation's data science community, whose purpose is to bring AI practitioners together, exchange knowledge and upskill.

Apr. 2024 – present **Mentor**, *MentorCruise.com*
Mentored over 10 individuals in data science, focusing on technical skills and professional development to advance their careers. Five-star rating - top 8% mentor.

Dec. 2024 – present **Scientific Collaborator**, *Sports Analytics Group*, Department of Statistics, AUEB

Apr. 2019 – Apr. 2022 **Senior Data Scientist**, *Choreograph, WPP (former Sandtable)*, London
Data science and end-to-end development, implementation and execution of ABMs for several sectors; automotive, retail, health (Covid-19 vaccine rollout), media. Project and client management.

Dec. 2013 – Apr. 2019 **Senior Data Scientist**, *CountingLab LTD*, Reading
Data analytics in (i) energy, (ii) retail & (iii) defence sectors. Data analysis, research and mathematical modelling. Implementation of machine learning, forecasting and optimisation algorithms in Python. Client interaction and management. Pitched winning ideas to funding bodies (InnovateUK, MoD) bringing new projects to the business.

Technical Skills & Impact

Data Science Stack Python; Pandas, NumPy, SciPy, Sklearn, Streamlit, Ray, FastAPI, APIs. Ten years of experience. SQL, CI/CD, GIT, Docker (containerisation), GCP, Snowflake.
Working knowledge of: PyTorch, Tensorflow, Azure, AWS, C/C++, Matlab, Mathematica

Methods & techniques
- Agent Based Modelling (ABM) simulations.
- Geo-spatial data science.
- Generative AI applications.
- Machine learning: supervised, semi-supervised & unsupervised algorithms, feature reduction techniques, biased datasets, regression and statistical forecasting models
- Optimisation algorithms: genetic algorithms, integer programming, etc., see Publication.
- Time-series & forecasting methods: time-series analysis, recurrence quantification analysis, kernel density estimation, quantile regression, machine learning regression methods, see Publication 1 and Publication 2 among others.
- Natural language processing (NLP) and message stance classification; see Publication.
- Image processing: thresholding, key-point detection, object detection, see Publication.

Research & Publications	Strong mathematical background, advanced maths, analytical and numerical skills. 13 publications in peer-reviewed journals, 6 in peer-reviewed international conference proceedings, 2 book chapters, with hundreds of citations. Details on Google scholar profile.
Side Projects	Basketball analytics; author of the popular Euroleague API Python package.
Public Engagements	Public speaker at conferences, workshops and webinars, more details on my webpage.

Education

Oct. 2009 – Sep. 2013	**D.Phil. (Ph.D.) Theoretical Physics**, *University of Oxford*, Kellogg College, Thesis title: *Spectral dimension in graph models of causal quantum gravity*
Spring Term 2009	**Visiting Researcher**, *University of Bonn*, Theoretical Physics, via Socrates - Erasmus programme
Oct. 2004 – Jul. 2009	**B.Sc. Physics**, *University of Athens*, Graduated with "Excellence", 9.06/10, second best grade in the year out of 200 students. First-class honours degree