

# Yorgos Felekis

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## EDUCATION

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### Doctor of Philosophy (Ph.D.), Machine Learning

Oct. 2022 – present

*University of Warwick*

*Coventry, UK*

- Area: Causality, Causal Representation Learning, Digital Twins
- Advisors: [Prof. Theodoros Damoulas](#) & [Prof. Fabio M. Zennaro](#)
- Member of the [Warwick Machine Learning Group](#)
- [Enrichment student](#) at the [Alan Turing Institute](#) (Oct. 2024 – Jul. 2025)

### Master of Science (M.Sc.), Machine Learning

Sep. 2019 – Sep. 2020

*University College London - UCL*

*London, UK*

- Degree awarded with Distinction
- Thesis: “[Generalised Variational Inference posteriors in Probabilistic Deep Learning](#)” (Distinction)
- Area: Probabilistic Machine Learning, Bayesian Inference
- Advisors: [Prof. Theodoros Damoulas](#) and [Prof. Brooks Paige](#)

### Bachelor of Science (B.Sc.), Mathematics

Oct. 2014 – Jul. 2019

*National and Kapodistrian University of Athens*

*Athens, GR*

- Degree awarded with First Class Honours
- Specialization Area: Applied and Computational Mathematics

## PUBLICATIONS

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### Causal Optimal Transport of Abstractions

2024

- **Felekis Y.**, Zennaro F.M., Branchini N., Damoulas T., *Causal Learning and Reasoning (CLearR)*, 2024

### Causally Abstracted Multi-armed Bandits

2024

- Zennaro F.M., Bishop N., Dyer J., **Felekis Y.**, Calinescu A., Wooldridge M., Damoulas T., *Uncertainty in Artificial Intelligence (UAI)*, 2024

### Interventionally Consistent Surrogates for Agent-based Simulators

2024

- Dyer J., Bishop N., **Felekis Y.**, Zennaro F.M., Calinescu A., Damoulas T., Wooldridge M., *Neural Information Processing Systems (NeurIPS)*, 2024

### Probabilistic Deep Learning with Generalised Variational Inference

2022

- **Felekis Y.**, Damoulas T., Paige B., *4th Symposium on Advances in Approximate Bayesian Inference (AABI)*, 2022

### The generalized $\lambda$ -Constant Function Market Makers

2022

- **Felekis Y.**, Kristensen J., *IEEE Blockchain*, 2022

### Cryptocurrency price prediction with Multi-task Multi-step Sequence-to-Sequence Modeling

2022

- Kristensen J., Madrigal-Cianci J.P., **Felekis Y.**, Liatsikou M., *IEEE Blockchain*, 2022

### ex-GPT: An Extractive-Abstractive Summarization Framework with a Sentence Embeddings Twist

2020

- Minto L., Kmec J., **Felekis Y.**, Filippi G., *preprint*

### Deep Learning for Agricultural Land Detection in Insular Areas

2019

- Charou E., **Felekis Y.**, Bournou D., Maria Koutsoukou M., Panagiotopoulou A., Voutos Y., Bratsolis E., Mylonas P., Likforman-Sulem L., *10th International Conference on Information, Intelligence, Systems and Applications (IISA)*, 2019

## EXPERIENCE

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### Research Engineer

Dec. 2021 – Jul. 2022

*Advanced Blockchain AG*

*Berlin, DE*

- Work on the intersection of Artificial Intelligence and Blockchain technology and the mathematical aspects of DeFi. Specifically, study of the Automated Market Makers' dynamics via Multi-agent Reinforcement Learning Simulations and Adversarial Learning.
- Organizer of the weekly Research seminar (paper reviews, invited talks, brainstorming sessions).

### Machine Learning Engineer

Aug. 2021 – Dec. 2021

*Ernst & Young (EY)*

*Athens, GR*

- Work on AI-related platforms and technologies with a focus on Natural Language Processing and Natural Language Understanding at the IBM TechHub of EY. In particular, the work was focused on Text Classification, Document Retrieval, QA, and summarization tasks.

### Machine Learning Engineer

Jan. 2021 – Jun. 2021

*LangAware*

*Athens, GR*

- Design and develop productised and deployed machine learning models for predicting neurodegenerative diseases with Natural Language Processing techniques. Specifically, work on Dementia, Alzheimer and Parkinson's diseases.

### Visiting Researcher

Sep. 2019 – Sep. 2020

*National Centre for Scientific Research "Demokritos"*

*Athens, GR*

- Mentoring and supervising internship projects of undergraduate students, as part of their BSc Diploma.

### Research Scientist

Dec. 2018 – Aug. 2019

*National Centre for Scientific Research "Demokritos"*

*Athens, GR*

- Experimentation with Transfer Learning techniques with popular neural network architectures (AlexNet, ResNet, VGG16).
- Creation of a Sentinel-2A based dataset called "Ionio dataset" and training of a Convolutional Neural Network in order to classify Agricultural and Non-Agricultural land cover. (see publication below)
- Organise multiple workshops as the main speaker for students and researchers on Deep Learning techniques and their applications to Remote Sensing.

### Research Intern

Aug. 2018 – Dec. 2018

*National Centre for Scientific Research "Demokritos"*

*Athens, GR*

- Literature review of SOTA Deep Learning models for remote sensing image processing and satellite imagery.

## HONOURS & AWARDS

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### Alan Turing Institute Placement Award

Oct. 2024 – Jul. 2025

- Awarded as part of the Enrichment Scheme, to PhD students from across the UK to spend 9 months in the Alan Turing Institute. Includes £1500 of funding to boost research.

### Fully funded PhD position

Oct. 2022 – Apr. 2026

- Awarded via the UKRI Turing AI Acceleration Fellowship [EP/V02678X/1]: "Machine Learning Foundations of Digital Twins", awarded to Prof. Theodoros Damoulas

### Onassis Scholarship for Doctoral Studies

Oct. 2022 – Oct. 2025

- Awarded in recognition of outstanding academic performance.

## SUPERVISION

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### Luke Padmore, MSci Data Science Thesis

Oct. 2024 – Jul. 2025

*co-supervise with Prof. Theo Damoulas and Prof. Fabio M. Zennaro*

*University of Warwick*

### Tanatip Timtong, BSc Computer Science Thesis

Jul. 2022 – Apr. 2023

*co-supervise with Prof. Theo Damoulas*

*University of Warwick*

### Mary Karatzoglidi, Research Internship

Sep. 2019 – Jan. 2020

*co-supervise with Dr. Eleni Charou*

*NCSR "Demokritos"*

## TALKS & POSTERS

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### Causal Optimal Transport of Abstractions

*Causal Club reading group*

Dec. 2024

*University of Pisa, Pisa, IT*

### Think, Reason and Learn in Multi-Scale Causal Systems

*CS & Stats PhD research seminar*

Nov. 2024

*University of Warwick, Coventry, UK*

### Causal Optimal Transport of Abstractions

*Algorithms & Computationally Intensive Inference Seminar*

May 2024

*University of Warwick, Coventry, UK*

### Causal Optimal Transport of Abstractions

*Stanford AI Lab*

Apr. 2024

*Stanford University, Palo Alto, CA, USA*

### Causal Optimal Transport of Abstractions (poster)

*Causal Learning and Reasoning (CLear)*

Apr. 2024

*UCLA, Los Angeles, CA, USA*

### Bridging micro and macro causal realms

*Warwick Postgraduate Colloquium in Computer Science*

Dec. 2023

*University of Warwick, Coventry, UK*

### Probabilistic Deep Learning with Generalised Variational Inference (poster)

*4th Symposium on Advances in Approximate Bayesian Inference*

Feb. 2022

*Virtual Event*

### MSc Thesis Presentation

*NCSR "Demokritos" Machine Learning seminar series*

Jan. 2021

*NCSR "Demokritos", Athens, GR*

### Machine Learning methods for satellite image processing

*55th Summer School of NCSR "Demokritos"*

Jul. 2020

*NCSR "Demokritos", Athens, GR*

### Deep Learning for Agricultural Land Detection in Insular Areas

*10th International Conference on Information, Intelligence, Systems and Applications*

Jul. 2019

*University of the Peloponnese, Patras, GR*

### Deep Learning trends & techniques

*Computational Intelligence Lab seminar*

Sep. 2019

*NCSR "Demokritos", Athens, GR*

### Convolutional Neural Networks for Land Use Land Cover classification

*Computational Intelligence Lab seminar*

May 2019

*NCSR "Demokritos", Athens, GR*

## ORGANIZATION

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### Physics-informed Machine Learning seminar series

*Explores real-world applications of  $\Phi$ -ML methods to the engineering practice.*

Nov. 2024 – present

*The Alan Turing Institute, London, UK*

### Advanced Topics in Machine Learning WMLG reading group

*Focus: Causality, Robustness, Statistical Machine Learning.*

Jan. 2023 – Jan. 2025

*University of Warwick, Coventry, UK*

### Three-day Hackathon

*Causal discovery for cancer; Learning to run a power network; Low cost climate prediction*

Apr. 2023

*University of Cambridge, Cambridge, UK*

### Computational Intelligence Lab seminar

*Organized workshops, seminars and invited talks*

May. 2019 – Sep. 2019

*NCSR "Demokritos", Athens, GR*

## ACADEMIC SERVICE

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- AAAI Conference on Artificial Intelligence 2025

## TECHNICAL SKILLS

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**Languages & Developer Tools:** Python, Matlab, Julia, Git, Google Cloud Platform, IBM Watson

**Libraries:** PyTorch, Keras, Scikit-learn, Pandas, NumPy, Matplotlib

## LANGUAGES

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**Greek:** Native

**English:** Fluent

**French:** Intermediate

**Spanish:** Beginner