# Yorgos Felekis

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## **EDUCATION**

## PhD, Machine Learning

Oct. 2022 – present

University of Warwick

Coventry, UK

- Research Focus: Causal Inference, Digital Twins, Probabilistic Machine Learning
- Member of the Warwick Machine Learning Group

## MSc, Machine Learning

Sep. 2019 - Sep. 2020

University College London - UCL

London, UK

• Degree awarded with Distinction

#### BSc, Mathematics

Oct. 2014 – Jul. 2019

National and Kapodistrian University of Athens

Athens, GR

• Degree awarded with First Class Honours

#### EXPERIENCE

## 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 & Data Science Consultant

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.

<ul> <li>Probabilistic Deep Learning with Generalised Variational Inference</li> <li>Felekis G., Damoulas T., Paige B., 4th Symposium on Advances in Approximate Bayesian Inference (link)</li> <li>The generalized λ-Constant Function Market Makers</li> <li>Felekis G., Kristensen J., IEEE Blockchain, 2022 (link)</li> <li>Cryptocurrency price prediction with Multi-task Multi-step Sequence-to-Sequence Modeling</li> <li>Kristensen J., Madrigal-Cianci J.P., Felekis G., Liatsikou M., IEEE Blockchain, 2022 (link)</li> <li>Deep Learning for Agricultural Land Detection in Insular Areas</li> <li>Charou E., Felekis G., Bournou D. et.al., 10th International Conference on Information, Intelligence, Systems and Applications, 2019 (link)</li> </ul>			
		Honours & Awards	
		Turing AI Acceleration Fellowship	Oct. 2022 –Apr. 2026
		Onassis Scholarship for Doctoral Studies	Oct. 2022 – Oct. 2025
Talks & Posters			
Optimal Transport for Causal Abstractions Warwick Postgraduate Colloquium in Computer Science	Mar. 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		
Deep Learning for Agricultural Land Detection in Insular Areas  10th International Conference on Information, Intelligence, Systems and Applications  United	Jul. 2019 versity of the Peloponnese, Patras, GR		
Machine Learning methods for satellite image processing 5th Summer School of NCSR "Demokritos"	Jul. 2020 NCSR "Demokritos", Athens, 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		
Supervision			
Tanatip Timtong, BSc Computer Science Thesis co-supervise with Prof. Theo Damoulas @ University of Warwick	$egin{array}{ll} { m Jul.} & 2022-{ m present} \\ { m \it Coventry,} & { m \it UK} \end{array}$		
Mary Karatzoglidi, Research Internship co-supervise with Dr. Eleni Charou @ NCSR "Demokritos"	Sep. $2019$ – Jan. $2020$ Athens, $GR$		
Projects			
Generalised Variational Inference posteriors in Probabilistic Deep Learni  • MSc Thesis and short presentation, awarded with Distinction. (link)	<b>ng</b> May 2020 – Sep. 2020		
ex-GPT: A Summarization Framework	Feb. 2020 – Apr. 2020		
• An Extractive - Abstractive Summarization Framework with a Sentence Embeddings Processing module during my MSc in Machine Learning. (link)	Twist as part of the Natural Language		
Cellular location prediction of proteins  • Predicting the subcellular location of eukaryotic proteins using a Random Forest class	Feb. 2020 – Mar. 2020 ssifier. ( <b>link</b> )		

• Work presented in 2nd Workshop on Remote Sensing and Space Applications on Geo-sciences and Geo-hazards of Geological Society of Greece

Sep. 2019 - Feb. 2020

Neural Style Transfer for Remote Sensing Images

## Conferences & Summer Schools

Cambridge ELLIS Machine Learning Summer School (2022)

Oxford Machine Learning Summer School (2020)

Athens Probability Colloquium (2017, 2018)

Athens Colloquium on Algorithms and Complexity (2016, 2017, 2018)

International Conference on Algorithms and Complexity (2017)

## TECHNICAL SKILLS

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

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

## LANGUAGES

Greek: Native English: Fluent French: Intermediate