Yorgos Felekis

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EDUCATION

PhD, Machine Learning Oct. 2022 – present
University of Warwick *Coventry, UK*

- Research Focus: Machine Learning, Causal Inference and Representation Learning, Digital Twins
- 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

PUBLICATIONS

Causal Optimal Transport of Abstractions 2023

- Felekis Y., Zennaro F.M., Branchini N., Damoulas T., *arXiv preprint 2023*

Interventionally Consistent Surrogates for Agent-based Simulators 2023

- Dyer J., Bishop N., Felekis Y., Zennaro F.M., Calinescu A., Damoulas T., Wooldridge M. *arXiv preprint 2023*

Probabilistic Deep Learning with Generalised Variational Inference 2022

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

The generalized λ-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. et.al., *IISA 2019*

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.

Honours & Awards

Turing AI Acceleration Fellowship Oct. 2022 –Apr. 2026

Onassis Scholarship for Doctoral Studies Oct. 2022 – Oct. 2025

Talks & Posters

COTA: Bridging micro and macro causal realms Dec. 2023
Warwick Postgraduate Colloquium in Computer Science *University of Warwick, Coventry, UK*

Probabilistic Deep Learning with Generalised Variational Inference (poster) Feb. 2022
4th Symposium on Advances in Approximate Bayesian Inference *Virtual Event*

MSc Thesis Presentation Jan. 2021
NCSR "Demokritos" Machine Learning seminar series *NCSR "Demokritos", Athens, GR*

Machine Learning methods for satellite image processing Jul. 2020
55th Summer School of NCSR "Demokritos" *NCSR "Demokritos", Athens, GR*

Deep Learning for Agricultural Land Detection in Insular Areas Jul. 2019
10th International Conference on Information, Intelligence, Systems and Applications *University of the Peloponnese, Patras, GR*

Deep Learning trends & techniques Sep. 2019
Computational Intelligence Lab seminar *NCSR "Demokritos", Athens, GR*

Convolutional Neural Networks for Land Use Land Cover classification May 2019
Computational Intelligence Lab seminar *NCSR "Demokritos", Athens, GR*

Supervision

Tanatip Timtong, BSc Computer Science Thesis Jul. 2022 – Apr. 2023
co-supervise with Prof. Theo Damoulas @ University of Warwick *Coventry, UK*

Mary Karatzoglidi, Research Internship Sep. 2019 – Jan. 2020
co-supervise with Dr. Eleni Charou @ NCSR "Demokritos" *Athens, GR*

Organization

Warwick Machine Learning reading group Jan. 2023 – present
Focus: Causal Inference, Robustness, Probabilistic Machine Learning *University of Warwick, Coventry, UK*

Three-day Hackathon Apr. 2023
Organized in collaboration with other Alan Turing Institute fellows *University of Cambridge, Cambridge, UK*

Computational Intelligence Lab seminar May. 2019 – Sep. 2019
Organized workshops, seminars and invited talks *NCSR "Demokritos", Athens, GR*

Conferences & Summer Schools

Mediterranean Machine Learning Summer School (2023)
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