Giorgos Papadakis

Applied Mathematician & Machine Learning Engineer

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Professional Summary

Results-driven Machine Learning Engineer with a strong background in applied mathematics, deep learning, and data science. Passionate about solving real-world problems using AI, with hands-on experience in image segmentation, time series forecasting, and explainable AI. Strong communication skills with experience in teaching and mentoring.

Skills

Technical Skills: Python, TensorFlow, PyTorch, Scikit-learn, SHAP, R, Deep Learning, Machine Learning, Time Series Analysis, Computer Vision, NLP, Data Visualization
Soft Skills: Problem-Solving, Team Collaboration, Communication, Adaptability, Team Management

Experience

Machine and Deep Learning Engineer 2023 – Today
Freelance / Personal Projects
- Developed deep learning solutions for medical imaging and finance applications.
- Achieved a 95% R^2 score in an AI competition predicting urban heat islands with attention-based CNNs for geospatial data analysis.
- See more on my GitHub page.

Mathematics Teacher – Secondary Education School "BOLI" 2021 – Today
-Teaching mathematics to primary and secondary school students.
-Teaching Statistics and Machine Learning at university students.

Education

Master's Degree in Data Science and Machine Learning 2021 – 2023
National Technical University of Athens (NTUA), School of Electrical and Computer Engineering
Grade: 8.61 / 10

Thesis: Recognition of Cancer Tumors Using Deep Learning Techniques
- Developed and optimized UNet and Attention UNet models, achieving performance close to state-of-the-art benchmarks.
- Applied advanced image segmentation techniques and model evaluation metrics using TensorFlow and Keras.

Bachelor's Degree in Applied Mathematics 2016 – 2020
National and Kapodistrian University of Athens (NKUA), Department of Mathematics
Grade: 7.50 / 10

Certifications

Machine Learning Explainability 2025
Certificate from Kaggle for successfully completing Machine Learning Explainability with Shap Library.

Time Series Analysis 2025
Certificate from Kaggle for successfully completing Time Series training with basic and hybrid models.

Machine Learning with Python: Zero to GBMs 2023
Certificate from Jovian, representing approximately 60 hours of coursework in machine learning.

Selected Projects

The 2025 EY Open Science AI and Data Challenge: Cooling Urban Heat Islands:
- Extract geospatial satelite data and cinvert them into feature images.
- Designe a Attention based CNN that predicts the UHI values of a pair of coordinates
- R2 score 95% on submission set (The challenge is still on air, so the training)

Stock Values Prediction:
- Designed basic models, like RNN, LSTM and GRU, but also and Hybrid Models that use the basic models and Segmentation Analysis on news headlines to predict the Close value of Microsoft stock.
- Achieved greate scores of R^2 metric, with scores from the best models above 90%.

Cancer Tumor Recognition System:
- Designed a deep learning system based on UNet and Attention UNet for image segmentation.
- Achieved close to state-of-the-art results in accuracy metrics.

Brain Tumor Classification with Transfer Learning:
- Designed a deep learning system based on Transfer Learning.
- Use of VGG16 as a backbone feature extractor - Attention Layer for features enhance and Fully Connected Neural Network as head for the classifiction.
- Achieved close to state-of-the-art results in accuracy metrics.

PyTorch Tutorials:
- Collection of Jupyter Notebooks that cover the basics of Machine Learning.
- Implementations of Linear/Logistic Regression, Artificial Neural Network(ANN), Convolutional Neural Network (CNN), Recurrent Neural Network (RNN) and Long Short Term Memory (LSTM)

More projects are on the way...

Additional Information

Greek: Native
English: Advanced (C1 Level)
Languages: Greek (Native), English (C1 - Advanced)
Military Service: Infantry Soldier (2020 - 2021)
Hobbies: Reading (AI, ML, Deep Learning), Pankration (Athlete and Federation Representative)