Eleftherios Kouloumpris

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Work Experience

Machine Learning Researcher at Intelligent Systems Lab, AUTH Oct 2017 - present

- Research on machine learning models and software implementation for the detection of ADHD
- Development of deep learning models and software system for retail demand forecasting
- Development of algorithmic trading and automated investing strategies with machine learning

Lead Data Scientist at Medoid AI May 2019 - Jan 2022

- Analysis of sports betting data for fraud detection and bonus allocation
- Development and evaluation of hate speech detection models
- Implementation of Shiny applications with R.

Projects

ADHD360 Link

ADHD360 is an innovative, integrated platform developed to implement features of a serious game, aimed at diagnosing and treating ADHD through modern algorithms and Artificial Intelligence methods

Retail Demand Forecasting Link

An automated forecasting platform with configurable forecasting horizon, powered by state of the art deep learning models.

Plugin Development for SmartWorks Link

A collection of plugins that facilitate the development of deep learning or statistical models for time series forecasting.

Education

2018 - present	PhD Candidate (Machine learning for financial time series) at **CSD AUTH**	
2016 - 2018	Master's Degree at CSD AUTH: *Knowledge, Data and Software Technologies*	(9.75/10)
2012 - 2016	Bachelor's Degree at CSD AUTH: *Information Systems Specialization*	(8.38/10)

Publications

Kouloumpris, Eleftherios and Grigorios Tsoumakas (2021). "Short-Term Renewable Energy Forecasting in Greece Using Prophet Decomposition and Tree-Based Ensembles". In: *Database and Expert Systems Applications-DEXA 2021 Workshops: BIOKDD, IWCFS, MLKgraphs, AI-CARES, ProTime, AISys 2021, Virtual Event, September 27–30, 2021, Proceedings*. Springer Nature, p. 227.

Vartholomaios, Argyrios, Stamatis Karlos, Eleftherios Kouloumpris, and Grigorios Tsoumakas (2021). "Short-term renewable energy forecasting in greece using prophet decomposition and tree-based ensembles". In: *International Conference on Database and Expert Systems Applications*. Springer, pp. 227–238.

Almalis, Ioannis, Eleftherios Kouloumpris, and Ioannis Vlahavas (2022). "Sector-level sentiment analysis with deep learning". In: *Knowledge-Based Systems*, p. 109954. ISSN: 0950-7051. DOI: https://doi.

org/10.1016/j.knosys.2022.109954. URL: https://www.sciencedirect.com/science/article/pii/S0950705122010474.

Kochliaridis, Vasilis, Eleftherios Kouloumpris, and Ioannis Vlahavas (2022). "TraderNet-CR: Cryptocurrency Trading with Deep Reinforcement Learning". In: *IFIP International Conference on Artificial Intelligence Applications and Innovations*. Springer, pp. 304–315.

Kouloumpris, Eleftherios, Athina Konstantinou, Stamatis Karlos, Grigorios Tsoumakas, and Ioannis Vlahavas (2022). "Short-term Load Forecasting With Clustered Hybrid Models Based On Hour Granularity". In: *Proceedings of the 12th Hellenic Conference on Artificial Intelligence*, pp. 1–10.

Pandria, Niki et al. (Sept. 2022). "Information System for Symptom Diagnosis and Improvement of Attention Deficit Hyperactivity Disorder: Protocol for a Nonrandomized Controlled Pilot Study". In: *JMIR Res Protoc* 11.9, e40189. ISSN: 1929-0748. DOI: 10.2196/40189. URL: http://www.ncbi.nlm.nih.gov/pubmed/36169998.

Skills

Programming Languages	Python, R, C++, Javascript
Machine Learning	Scikit-learn, Caret
Deep Learning	Tensorflow, Keras, Pytorch
Big Data	PySpark