

Spyros Rigas

DATA SCIENCE · MACHINE LEARNING

🏠 srigas.net | 📱 srigas | 🌐 spyros-rigas | ✉ rigassp@gmail.com

Employment

DATA ENGINEERING & MACHINE LEARNING

Athens, Greece

SeaQuest Marine Technologies

2022 - Present

- Conceptualized and developed a complete solution for data ingestion, processing and storage on Microsoft's Azure Cloud.
- Implemented the Medallion scheme within a Delta Lake architecture to establish a resilient and scalable framework for efficient IoT data processing and storage.
- Designed and automated a Graph Attention-based Neural Network (PyTorch) for Anomaly Detection, incorporating best MLOps practices by leveraging MLflow.
- Developed an external UI (Streamlit) for debugging and fine-tuning the Anomaly Detection model, enhancing model interpretability and performance.

POST-MSC RESEARCHER

Athens, Greece

Physics Department, National and Kapodistrian University of Athens

2021 - 2022

- Followed up on Master Thesis research, by extending the developed code to account for more complex effects.
- Developed Python & Julia code to study the non-analytical solutions of spin-orbit coupled superconducting systems.

MILITARY SERVICE

Greece & Cyprus

Signals Arm

2018 - 2019

- Mandatory 9-month service after finishing BSc studies.
- Built a small-scale on-premises MySQL database to store staff information.
- Developed Python code for daily automatic posts allocation.

Skills

Coding

Python: PyTorch, TensorFlow, JAX, Flax, OpenCV, FastAPI, scikit-learn

R: data.table, XGBoost, plotly, ggplot2

Julia: TensorFlow, ScikitLearn, DataFrames

SQL: PostgreSQL (+TimescaleDB), MySQL

Cloud

Microsoft Azure Ecosystem (Microsoft Certified): Data Factory, Data Lake Gen 2, Event Grid, Event Hubs, IoT Hub, Stream Analytics, Machine Learning, Cognitive Services

Others: Databricks, InfluxDB, IBM Db2, Grafana

Tools

Apache Spark (PySpark API), MLflow, Docker, Streamlit, Microsoft Power BI, Google Charts, Git, LaTeX

Languages

Greek (native proficiency), English (C2), German (elementary proficiency)

Education

MASTER OF SCIENCE IN DATA SCIENCE & MACHINE LEARNING

Athens, Greece

National Technical University of Athens

2021 - 2023

- Graduated with grade 9.89/10 (Excellent) from the School of Electrical and Computer Engineering.
- Developed a complete marine data science pipeline: from data collection to model deployment (MSc Thesis).
- Noteworthy courses: Algorithmic Data Science, Big Data, Data Driven Models, Data Mining, Deep Learning, Machine Learning, Social Networks Analysis, Parallel Architectures, Pattern Recognition, Statistical Modeling, Stochastic Processes and Optimization

MASTER OF SCIENCE IN PHYSICS

Athens, Greece

National and Kapodistrian University of Athens

2019 - 2021

- Graduated with grade 10/10 (Excellent) from the Physics Department's Condensed Matter Physics Section.
- Developed tight-binding code to simulate topological superconducting systems (MSc Thesis).
- Noteworthy courses: Computational Physics, Statistical Physics

BACHELOR OF SCIENCE IN PHYSICS

National and Kapodistrian University of Athens

Athens, Greece

2014 - 2018

- Graduated with grade 8.98/10 (Excellent) from the Physics Department's Nuclear & Particle Physics Section.
- Studied quantum information loss in black-hole systems described by semi-classical fields (BSc thesis).

Publications

FORECASTING PM_{2.5} CONCENTRATION IN PORT-CITIES

International Aerosol Conference

September, 2022

We constructed a general framework for PM forecasting, employing publicly available PM measurements from low cost sensors and open meteorological data, with the aid of machine learning algorithms. In particular, we trained a Long Short-Term Memory (LSTM) Neural Network that provides a level of interpretability through an attention-based mechanism.

Honors & Awards

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| 2022 | Kaggle Expert , Awarded in the largest Data Science platform (Google LLC's subsidiary) | Remote |
| 2021 | 49th Bodossaki Foundation Scholarships Programme , Scholarship for post-MSc research | Athens, Greece |
| 2020 | 48th Bodossaki Foundation Scholarships Programme , Scholarship for Master Thesis research | Athens, Greece |