

# Spyros Rigas

DATA SCIENCE · MACHINE LEARNING

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## Employment

### DATA ENGINEERING & MACHINE LEARNING OPERATIONS

Athens, Greece

SeaQuest Marine Technologies

2022 - Present

- Designed a complete solution for data ingestion, storing, pre-processing and analytics for marine operations on Microsoft Azure.
- Implemented a Multivariate Time-Series Graph Attention Neural Network to perform unsupervised anomaly detection on IoT data.
- Designed and deployed a PostgreSQL database to feed processed data into a monitoring dashboard's back-end.

### 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, 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), 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

Athens, Greece

National and Kapodistrian University of Athens

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

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### FORECASTING PM<sub>2.5</sub> 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	<b>Kaggle Expert</b> , Awarded in the largest Data Science platform (Google LLC's subsidiary)	Remote
2021	<b>49th Bodossaki Foundation Scholarships Programme</b> , Scholarship for post-MSc research	Athens, Greece
2020	<b>48th Bodossaki Foundation Scholarships Programme</b> , Scholarship for Master Thesis research	Athens, Greece