

Spyros Rigas

DATA SCIENCE · MACHINE LEARNING

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Education

MASTER OF SCIENCE IN DATA SCIENCE & MACHINE LEARNING

Athens, Greece

National Technical University of Athens

2021 - 2023

- Currently working on my MSc Thesis titled “Construction of a complete marine data science pipeline: from data collection to model deployment”. Running average grade: 9.89/10
- Noteworthy courses: Algorithmic Data Science, Big Data, Data Driven Models, Data Mining, Deep Learning, Machine Learning, 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).

Skills

Programming Python, SQL, R, Julia, FORTRAN, C

Tools Apache Spark (PySpark API), Database Management (InfluxDB, IBM Db2), Grafana, Git, LaTeX

Languages Greek (mother tongue), English (C2), German (Beginner)

Notable Projects

MUSIC GENRE RECOGNITION AND SENTIMENT ANALYSIS

Remote

Kaggle Competition (Python)

2022

- Extracted mel-spectrograms and chromagrams from 3800 song samples split into 20 music genres.
- Developed (1) LSTM Neural Networks stacked on Convolutional Neural Networks and (2) 2-dimensional Convolutional Neural Networks to perform genre classification.
- Adapted the networks to perform regression tasks, in order to measure features such as “valence”, “energy” and “danceability”.

SPEECH RECOGNITION

Remote

Project Assignment (Python)

2021

- Adapted a parser to extract MFCC features and derivatives thereof from a dataset of sound files.
- Trained Hidden Markov Models to perform speech classification based on the dataset's sound files.
- Developed bidirectional LSTM Neural Networks to perform the same classification and compared training times and classification accuracy metrics.

Employment

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 effects.
- Developed code to study the non-analytical solutions of spin-orbit coupled superconducting systems.

PHYSICS, MATH & PROGRAMMING TUTOR

Freelance

Athens, Greece

Jul. 2019 - Jun. 2021

- Tutored high school and university students on Physics, Mathematics and Programming related subjects.

MILITARY SERVICE

Signals Arm

Greece & Cyprus

2018 - 2019

- Mandatory 9-month service after finishing BSc studies.
- Built a small-scale local SQL database to store staff information.
- Developed Python code to automatically allocate daily posts as an optimization problem.

PHYSICS & MATH TUTOR

Freelance

Athens, Greece

2014, 2018

- Tutored high school students and also taught in a private tutoring school.

Honors & Awards

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

2014 **Touramanoglou Award**, Amongst the top high school graduation grades in Ilioupolis

Athens, Greece