

## CONTACT



+30-698-347-3501



ioannis.karkanias@gmail.com



[iokarkan.github.io](https://github.com/iokarkan)



Gravias 4, Athens, Greece



[Social Profile](#)

## SKILLS

### Data Analytics - Machine Learning

- Python
  - Numpy, Pandas
  - Scikit-Learn, Matplotlib, scipy
  - Keras, Tensorflow, PySpark, PyTorch
  - CERN ROOT
- R
- SQL
- IBM Cognos Analytics

### Web and software development

- React-JS, NodeJS
- HTML, CSS (Tailwind)
- C++

### Collaborative Tools

- Git
- Confluence
- draw.io
- PlantUML

## LANGUAGES

- Greek
- English
- German

# Machine Learning Scientist, Physics PhD

## PROFESSIONAL PROFILE

Combining a theoretical and experimental background, I employ a physicist's approach in the world of data. Alongside my main expertise in designing and applying data analysis, statistical computation and visualization pipelines, my passions extend to web and software development.

## WORK EXPERIENCE

### Business Analyst (Arhs Developments Hellas)

Dec 2021 - Now

Freelance consultant for **large scale IT - Big Data** software development

- Consulting services to corporate stakeholders
- Data Modeling validation
- Project Requirement and Impact Analysis
- User Story creation and UML modeling

### Doctorate (Physics Dept., Aristotle University of Thessaloniki)

Nov 2017 - Jun 2022

Scholarship-funded research exploring Machine Learning in statistical data analysis with collider data from **CERN LHC's ATLAS** experiment

- Adaptation of **Machine Learning** techniques in signal and background classification, synthetic data generation and hypothesis testing that led to strictest known limits to a family of theorised particle interactions
- Full data manipulation and computation pipeline implementation using **ROOT** and popular **Python** statistics and ML libraries

## COURSES

### Big Data Platforms (University of Helsinki)

Oct 2021

- Master's level course on technologies and implementation of large modern distributed systems
- Hands-on exercises using **PySpark** and **SQL**

### Full Stack Open (University of Helsinki)

Aug 2021

- React**-based course on full stack web development
- Step-by-step development and testing of single page apps, implementation of REST API and integration with no-SQL MongoDB database on the cloud

## EDUCATION

### Aristotle University of Thessaloniki (Greece 2018-2022)

**PhD** in Experimental Particle Physics

### Durham University (United Kingdom 2016-2017)

**Master's** Degree in Theoretical Physics

### Aristotle University of Thessaloniki (Greece 2011-2016)

**Bachelor's** Degree in Physics