

Alexandra Zisimopoulou | Curriculum Vitae

Athens, Greece.

Birth: August 29, 1994.

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Education

Master of Science in Physics.

08/2018 – 08/2020

University of Copenhagen, Niels Bohr Institute.

- Thesis Title: The CMB on large angular scales

Bachelor of Science in Physics.

09/2012 – 07/2018

University of Crete, Department of Physics.

- Thesis Title: Perfect Transmission in Non-Hermitian Scattering Media
 - GPA: 7.82/10
 - Courses: Introduction to Computers, Introduction to Programming Fortran.

Work Experience

Foundation for Research and Technology

10/2021 - 01/2022

Worked on the software, Quantum ESPRESSO and Yambo to calculate numerically optical and thermodynamic properties of metals. All calculations were completed using the Linux command line.

Languages Software Skills

Programming Languages

- Python ○ MATLAB ○ C++ ○ Java (beginner) ○ SQL (beginner)

Languages

- Greek (native) ○ English (IELTS & ECPE, Level: C1) ○ German (Goethe-Zertifikat, Level: B1.)

Operating Systems

- Windows ○ Linux

Software Packages

- \LaTeX ○ Quantum ESPRESSO ○ Yambo ○ Ms Office (Word, Excel, PowerPoint)

Courses & Projects

MATLAB

- Bachelor & Master Thesis
 - Implement theoretical models and numerically calculate parameters
 - Matrix representation, functions & tensor analysis
 - 1-D, 2-D & contour plots

Topics of projects completed while attending courses from the Department of Computer Science, University of Crete:

- CS-473 Pattern Recognition
 - Likelihood - Distribution function - Prior and Posterior Probabilities
 - Maximum Likelihood Estimation - Bayesian Parameter Estimation
 - Hypercube and Gaussian functions - k^{th} -Nearest Neighbor (KNN) classifier
 - Parzen Windows classifier - Steepest Descent algorithm

C++

- CS-150 Programming
 - All assignments and projects were completed using Visual Studio.
 - Objects, Types and Values. - Errors. - Functions. - Classes - IO Streams - Customizing IO
 - Graphic Classes - Class Design - GUI - Vector and Free Store - Pointer and Arrays

Python

- Online Course: Modern Robotics: Mechanics, Planning, and Control Specialization. The following projects were completed with the use of Python and CoppeliaSim simulator.
 - A* search algorithm - Sampling-Based Planning - Robot Kinematics and Dynamics Project
 - Form Closure - Stability of an Assembly - Capstone Project, Mobile Manipulation

Certificates

Complete Python Bootcamp: From Zero to Hero in Python. **Udemy – 2020**

- Object and Data Structure Basics. ○ Comparison Operators. ○ Statements.
- Methods and Functions. ○ Object Oriented Programming. ○ Modules and Packages.
- Errors and Exceptions Handling. ○ Decorators. ○ Generators. ○ Advanced Modules.
- Web scraping. ○ Working with images. ○ Emails with Python. ○ Introduction to GUIs.
- Working with PDFs and Spreadsheet CSV Files.
- Advanced Python Objects and Data Structures.

Beginning C++ Programming – From Beginner to Beyond. **Udemy – 2020**

- Variables and Constants. ○ Arrays and Vectors. ○ Statements and Operators.
- Controlling Program Flow. ○ Characters and Strings. ○ Functions.
- Pointers and References. ○ OOP - Classes and Objects. ○ Operator Overloading.
- Inheritance. ○ Polymorphism. ○ Smart Pointers. ○ Exception Handling.
- I/O and Streams. ○ The Standard Template Library (STL).

Modern Robotics: Mechanics, Planning, and Control Specialization. **Coursera – 2020**

Java Programming Masterclass covering Java 11 & Java 17 **Udemy – Today**

The Complete SQL Bootcamp 2022: Go from Zero to Hero **Udemy – Today**

Awards

Sixteenth National Competition in Astronomy and Space Physics **2011**

Hellenic Mathematical Society **2011**

Distinction in the National Competition in Astronomy and Space Physics and represented Greece at the educational Space Camp of NASA, Huntsville, Alabama.