

PANOS OIKONOMOU

Electrical Engineering & Physics Student
New York University Abu Dhabi

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EDUCATION

NEW YORK UNIVERSITY ABU DHABI

UAE | 2018 – 2022

Bachelor of Science in Electrical Engineering and Physics

NATIONAL TECHNICAL UNIVERSITY OF ATHENS

Greece | 2017

Accelerated program for Advanced Programming Methodologies, for preparation for the IOI.

DOUKAS SCHOOL

Greece | 2016-2018

International Baccalaureate Diploma program with Emphasis on Physics, Math, and Computer Science

TECHNICAL SKILLS

Programming. C++, C, Java, Python, MATLAB, JavaScript, Qiskit. | **Formatting.** HTML, XML, CSS, PHP, LaTeX **Software.** SolidWorks, Fusion 360, OnShape, Geant4, COMSOL, Overleaf, Adobe CC, Eagle, Upverter, Unity, Blender, Conda, Qt, Processing, Davinci Resolve, Vernier Logger Pro, Cadence QUCS, LTspice. | **Hardware.** Arduino, Raspberry Pi, Circuit Prototyping, 3D Printing, Laser Cutting, CNC, Machining

EXPERIENCE

Research Assistant Astroparticle Physics Laboratory | NYUAD

UAE | 2018 – now

Theoretical Physics and Practical Design: *Haloscope* Dark Matter Detector (Axions, Dark Photons)

- Dark Optics Analysis for Detector design and Simulation with SolidWorks/COMSOL
- Subatomic Simulations with Geant4

Engineering Design: Compact x-ray Fluorometer (XRF) for ancient artefact elemental analysis

- Analog Adjustable PID for Detector Noise Reduction with Liquid Helium | Circuit/PCB Design, Simulation, Manufacturing, Implementation. CAD/CAM Head Sensor Assembly

Research Assistant Applied Multimedia Laboratory | NYUAD

UAE | 2018 – now

- Applied Thermoelectric Control Optimization research using TEC. Development of optimum digital feedback control for Peltier Cells applied for Thermovibrotactile Funneling Systems
- Development of vibrotactile actuation, with independent control of frequency and amplitude. Spice Resonance Simulations, Circuit Design and Development

Engineering Teaching Assistant | NYUAD ECE

UAE | 2019 – now

- Teaching Assistant for Programming for Engineers Course in NYUAD. Topics include C++, MATLAB, Searching, Sorting Algorithms, Data Structures, Dynamic Memory, OOP, Unity.
- Duties include: Lab instruction, Recitations, Grading.

Student Council Head of Central & Eastern Europe | Microsoft

EU | 2016 – 2017

- Part of globally selected 12-member board for Microsoft's Education Activities coordination.
- Organized Outreach events and Competitions in Russia, Greece, Lithuania. Head Organizer of International STEM outreach conference. Coordinator of Global Student Ambassador Program.

RESEARCH

Decentralised Bioinspired Non-Discrete Model for Autonomous Swarm

UAE | 2018 – 2019

Aggregation Dynamics

Algorithmic model developed based on ant movement and aggregation for applications in non-programmable swarm robotic systems. Publication to *Applied Sciences*.

TEC Control System Development for Thermovibrotactile Funneling Applications

UAE | 2018

Research in the psychophysical Thermovibrotactile funneling illusion. Design, Simulation, Implementation of digital active feedback control system. Publication TBA.

Non-Contact Roughness Detection Methodology based on HCSR04 Ultrasonic Artefacts

UAE | 2018

Machine learning was implemented to analyze artefacts of ultrasonic sensors to determine the roughness (proportional to ultrasonic scattering) of different incident materials

Design, Simulation & Development of Assistive Technology for Visually Impaired People, based on Echolocation.

Greece | 2015 – 2016

Design of echolocation emulating vibrotactile vest for visually impaired people. Algorithm for realtime ultrasonic environment mapping was developed and applied to development of low-cost assistive device