

**Education**

- **Northwestern University** Evanston, US  
*Attending MS program in robotics* Sept. 2020
- **Member of the Technical Chamber of Greece** Athens, Greece  
*certification* Aug. 20, 2020
- **University of Patras** Patra, Greece  
*Integrated Master in Electrical and Computer Engineer(MSc Equivalent)* Oct.2013- Oct.2019
  - Grade cumulative average **7.1/10** equivalent to **3.1/4.0** GPA using [WES<sup>1</sup>](#) GPA calculator
  - Diploma Thesis (in Greek): *Advanced Techniques of Human-Machine Interaction in Virtual or Augmented Reality Environments* ([demo video](#) <sup>2</sup>)
  - Relevant courses: Robotics, Computer Graphics and Virtual Reality, Control Theory, Signals & Systems, Databases & Algorithms, Linear Algebra, Applied Mathematics
- <sup>1st</sup> **High School of Xanthi** Xanthi , Greece  
*High School Diploma* Sep. 2010 - June 2013
  - Graduated with **17.9/20** cumulative average, and received praise(over 17) each year

**Work and Research Experience**

- **Greek Army** Xanthi, Greece  
*Army Engineer* Oct. 2019 - July 2020
  - Full-filled Mandatory Service for Greek Army
- **RoboticsClub, <https://web.facebook.com/pg/Polymechanon>** Patra, Greece  
*Robotics Engineer* Sep. 2016 - June 2019
  - Won many times 1st prize at universal ROBOTEX contest in the category "Following Line"(2015-2018) and "Following Line Enhanced"(2016-2018)
  - Designed and manufactured PCB boards to control the robots
  - Developed robotic algorithms for micro-controllers with limited resources(teensy)
  - Developed an online simulator to test the behaviour of the robot in different environments
- **Athena Research Center, [Clepsydra Center \(clepsydra.ipet.gr\)](https://web.facebook.com/pg/Polymechanon)** Xanthi, Greece  
*Student Intern, Contract no 708* Aug. 1, 2019 - Oct. 31, 2019
  - Worked on SRACH-3/Subcontract i-3D-Icons
  - Subject of work *3D Digitization and Augmented Reality using Specialized Hardware*
- **Irida Labs Center, <https://www.iridalabs.gr>** Patra, Greece  
*Student Intern* June 2017 - Sept.2017
  - Implementation of a VSLAM algorithm with a monocular camera
  - Familiarization with depth-images processing techniques
- **Athena Research Center, <http://iguide.ceti.gr>** Xanthi, Greece  
*Student Intern, Contract no 622* August 3, 2015 - October 31, 2015
  - Worked on iGuide a social enriched mobile guide
  - Worked on text to speech narration in Greek, English and Bulgarian Languages

**Publications**<sup>1</sup><https://applications.wes.org/igpa-calculator/igpa.asp><sup>2</sup>[www.youtube.com/watch?v=OyU4GOLoXnA](https://www.youtube.com/watch?v=OyU4GOLoXnA)

1. Dimitris Chamzas and Konstantinos Moustakas, “3D Augmented Reality Tangible User Interface using Commodity Hardware”, in *15th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications (GRAPP)*, Valletta, Malta, 25-27 February 2020, (Accepted as sort paper with a poster presentation, sort listed for best papers) <sup>3</sup>
2. Dimitris Chamzas and Konstantinos Moustakas, ”cMinMax: A Fast Algorithm to Find the Corners in a N-dimensional Convex Polygon”, (to be submitted)

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<sup>3</sup><https://www.dropbox.com/s/vntdoq7al5hwti2/paper1Submitted.pdf?dl=0>

## Notable University Projects

- Implemented Python platform for controlling a Lego-robot via Bluetooth
- Implemented a closed-loop transfer function using operation amplifiers
- Implemented an algorithm which creates the point cloud from RGBD images
- Developed a full 3D city simulation environment with multiple computational geometry algorithms such as collision detection, ray tracing, Delaunay triangulation, and gravity
- Developed an agent that can play on online platforms the game called Score Four initialize with min-max search and subsequently with neural networks
- Constructed the model of an IRB-52 industrial robot and derived the Denavit-Hartenberg Parameters, Inverse Kinematics, Jacobian Matrix, Singularities, and a PD controller to follow a given trajectory.
- Leader-following formation and beading control of networked quad-copters
- Simulation of Multi-Agent navigation for real-time execution with reciprocal velocity obstacle and collision-free.
- Implemented a real-time Low Cost Augmented Reality System with a 3D tangible interface, using a smart mobile, a Raspberry Pi 4, a Raspberry Camera and a Structure Sensor (part of my Diploma Thesis)

## Software -Hardware Skills

**Programming Languages:** Assembly, C, C++, C#, Python, Java, Matlab

**Operating Systems:** Linux, Android, Windows

**Micro-Controllers:** Arduino, Raspberry Pi

**Designing:** PCB, 3D Printing

**Other:** OpenCV, OpenGL, GPU multiprocessing, UNITY, Vuforia

## MOOCS

- An Introduction to Interactive Programming in Python (Rice University) [course1](#) [course2](#)
- Artificial Intelligence (Berkeley University)[course](#)
- Learn Ethical Hacking [course](#)

## Languages

**English:** MICHIGAN CERTIFICATE OF PROFICIENCY, Level: C2(Excellent)

## Other Skills/Interests

**Sailing:** Sailing the Aegean Sea since 12 years old. Acquired Sailing diploma in 2012. Have won multiple medals and prizes in competitive sailing in the Ionian Sea

**Water-polo:** Won multiple medals both with my team and as swim athlete

**Skiing:** Skiing every winter for the last 10 years

**Scout:** Active member of the Scout Community for more than 15 years

**First aid:** Acquired certification at first aids from Hellenic Red Cross in 2016