

Alexandros Filotheou

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I have 7+ years of hands-on experience in robotics which includes SLAM, [Localisation](#), [Autonomous Navigation](#), [Control](#), [Computer Vision](#), and general integration, problem-solving, and troubleshooting. These I have acquired in [real conditions with real robots](#) as well as in simulation, working for research projects funded by the European Commission and the Greek State, or through volunteering. I am proficient in ROS and ROS 2, in versioning through git, virtualisation via Docker, and also in MATLAB/Octave, all the while under Linux. My primary coding language is [C++](#) and my secondary [Python](#).

Demos / videos [cbgl](#) · [fsm](#) · [cultureid](#) · [relief](#) · [multi-mpc](#) · [Portfolio](#)
Indicative software packages [cbgl](#) · [fsm-lo](#) · [PANDORA](#) [Hole Detection](#)
Indicative publications [\[cbgl\]](#) · [\[fsm\]](#) · [\[multi-mpc\]](#)

Experience

- Robotics Engineer** · CErTH, Thessaloniki GR Sep 2023 – Present
- Head of software integration and sole git repository maintainer of EU-funded R&D project [RoBétArmé](#)
 - Organised and deployed ROS and ROS 2 nodes and other software in over 50 Docker images over real & simulated ground mobile bases and supporting computing units
 - Bridged ROS with ROS 2 in terms of interfaces and over multiple machines
- Robotics and Control Engineer** · ECE dept., AUTH, Thessaloniki GR Sep 2018 – Mar 2023
- Technical lead of everything robotics in NSRF R&D projects [Relief](#) and [CultureId](#)
 - Implemented and deployed SLAM, autonomous exploration & navigation, 3D reconstruction, and corresponding friendly GUIs for real & simulated ground and aerial mobile bases
 - Decreased RFID-tag localisation error by 4x by decreasing and robustifying LIDAR-derived particle and Kalman filter robot pose error by 7x
 - Implemented and deployed mobile robot-human gui-interactive applications which have served more than 3000 visitors at the Archaeological Museum of Thessaloniki from early '23 to date
 - Coauthored & supported implementation behind eighteen high-ranking journal & conference publications
- Teaching Assistant** · KTH Royal Institute of Technology, Stockholm SE Sep 2016 – Nov 2016
- Examiner for *DD2380 - Artificial Intelligence*, supervised by Prof. Patric Jensfelt

Voluntary Experience

- Computer Vision Engineer** · [PANDORA Robotics](#), Thessaloniki GR Oct 2013 – Jul 2014
- Implemented and deployed detection of holes on walls through Microsoft's Kinect RGBD camera in [C++](#) in the context of the RoboCup Rescue international competition

Education

Doctorate · Electrical & Computer Engineering · Aristotle University of Thessaloniki Sep 2018–Jun 2023
Master of Science · Systems, Control, and Robotics · KTH Royal Institute of Technology Sep 2015–Jun 2017
Diploma · Electrical & Computer Engineering · Aristotle University of Thessaloniki Sep 2005–Jul 2013

Skills

Languages [C/C++](#), [Python](#), [shell](#), [MATLAB/Octave](#)
{Meta-}Operating Systems [Linux](#), [ROS 2](#), [ROS](#)
Tools [git](#), [Docker](#), [Eigen](#), [Behavior Trees](#), [Gazebo](#), [CI/CD](#), [Qt](#) / [Tkinter](#), [OpenCV](#)
Control Techniques [MPC](#), [PID](#), [LQR](#)

Languages

English Fluent — IELTS Score 8.5 (Greek Native)

References

Dr. Antonis Dimitriou · Coordinator of R&D projects · (+30) 697 88 96 350 · antodimi@auth.gr

For a complete list of references, whether they be supervisors or coworkers, visit

<https://github.com/li9i/cv/tree/master/references>