

# Alexandros FILOTHEOU

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[github.com/li9i](https://github.com/li9i) · [Portfolio](#)

Senior Robotics Engineer specialising in the full product lifecycle, from concept and simulation to continuous system integration and field deployment. Experience of 9+ years in integration, state estimation, sensor fusion, SLAM, [localisation](#), [autonomous navigation](#), [control](#), perception, [computer vision](#), and hardware. Delivered 50% improvement in localisation accuracy for a fleet of RFID-tag inventorying robots, enabling centimeter precision in tag-pinpointing. Proven ability to bridge research with real-world development and deployment which delivers reliable systems with repeatable behaviours.

## Skills

English	Native / Fluent (IELTS 8.5 - C2 Proficiency)
Languages	C/C++, Python, shell, MATLAB/Octave
Robotics/OS	Linux, ROS/ROS 2
Tools/Frameworks	git, Docker, Eigen, Behavior Trees, Gazebo, CI/CD, Qt/Tkinter, OpenCV
Control Techniques	MPC, PID, LQR

## Experience

**Robotics Software Engineer** · ITI-CERTH, Thessaloniki GR Sep 2023 – Present

- Owner of software integration and git repository maintainer in EU-funded R&D project [RoBétArmé](#)
- Ensured code quality via googletest and cplint, continuous integration/deployment via CI/CD pipelines
- Designed organisation and deployed 50+ Dockerised ROS/ROS 2 packages, use case orchestration via Behaviour Trees across multiple real and simulated mobile robotic platforms
- Achieved robust ROS-ROS 2 interoperability and communication across multiple machines using Zenoh

**Robotics & Control Engineer** · ECE dept., Aristotle University of Thessaloniki GR Sep 2018 – Mar 2023

- Technical Leader of robotics division in large-scale R&D projects [RELIEF](#) and [CultureId](#)
- Developed and deployed autonomous ground and aerial platforms in [libraries](#), [museums](#), and [outdoors](#)
- Boosted RFID-tag localisation accuracy by >2x by robustifying LiDAR-based filtering via Fourier analysis
- Deployed [human-robot applications](#) engaging 2,000+ visitors annually since 2023 at the [AMTh](#) museum
- Delivered production-grade 2D/3D SLAM and collision-avoiding navigation pipelines with intuitive user GUIs using karto, rtabmap, teb planner, and Qt
- Developed and integrated codebases for 18+ publications in top-tier IEEE journals/conferences, enabling multi-team experiments, translating novel robotics and RFID research to real-world solutions

**Teaching Assistant** · KTH Royal Institute of Technology, Stockholm SE Sep 2016 – Nov 2016

- DD2380 - Artificial Intelligence* under [Prof. Patric Jensfelt](#)

## Volunteering

**Computer Vision Engineer** · [PANDORA Robotics](#), Thessaloniki GR Oct 2013 – Jul 2014

- Enhanced robot perception by developing a [C++ wall-hole detection system](#) using Microsoft Kinect RGB-D for the international RoboCup Rescue competition, gaining 2<sup>nd</sup> place in 2015

## Links

Software packages	<a href="#">ros2-utils</a> · <a href="#">cbgl</a> · <a href="#">fsm</a> · <a href="#">lama-odom</a> · <a href="#">pandora-hole-detection</a>
Demos/Videos	<a href="#">Global Localisation</a> · <a href="#">LiDAR Odometry</a> · <a href="#">Multi-agent navigation</a> · <a href="#">RELIEF</a> · <a href="#">CultureId</a>
Publications	<a href="#">[Global Localisation]</a> · <a href="#">[LiDAR Odometry]</a> · <a href="#">[Multi-agent navigation]</a>

## Education

<a href="#">Doctorate</a> · Electrical & Computer Engineering · Aristotle University of Thessaloniki	Sep 2018 – Jun 2023
<a href="#">Master of Science</a> · Systems, Control, and Robotics · KTH Royal Inst. of Technology	Sep 2015 – Jun 2017
<a href="#">Diploma</a> · Electrical & Computer Engineering · Aristotle University of Thessaloniki	Sep 2005 – Jul 2013

## References

- [Antonis Dimitriou](#) · Coordinator of R&D projects · (+30) 697 88 96 350 · [antodimi@auth.gr](mailto:antodimi@auth.gr)
- A complete list of professional references comprising supervisors and colleagues may be found at

[github.com/li9i/cv/tree/master/references](https://github.com/li9i/cv/tree/master/references)