

# Alexandros FILOTHEOU

Thessaloniki GR · [alexandros.filothou@gmail.com](mailto:alexandros.filothou@gmail.com) · (+30) 693 8787 677 · [linkedin.com/in/alexandros-filothou](https://www.linkedin.com/in/alexandros-filothou)  
[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. With 9+ years of experience in integration, state estimation, sensor fusion, SLAM, **localisation**, **autonomous navigation**, **control**, perception, **computer vision**, and troubleshooting on real hardware. Delivered 50% boost in localisation accuracy for fleet of RFID-based inventory robots, achieving centimeter precision. Proven ability to conduct research independently and materialise it into real-world development and deployment, bridging the two worlds to deliver cutting-edge 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, DevOps, and git repository maintainer of R&D project **RoBétArmé**
- Engineered development and deployment principles for 9 partners and >50 Dockerised ROS packages
- Orchestrated fleet of concrete- and metal-additive manufacturing robots with Behaviour Trees
- Identified bottlenecks and reduced deployment time >10x across fleet by utilising advanced tmux features
- Ensured code quality via googletest and cpplint, continuous integration/deployment via CI/CD pipelines
- 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
- Engaging 2,000+ visitors annually since 2023 at the **AMTh** museum by deploying **human-robot applications**
- Delivered production-grade 2D/3D SLAM and collision-avoiding navigation pipelines with intuitive user GUIs using Qt, teb planner, rtabmap, and karto
- 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 opportunities

### 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

- Increased survivor rescue probability and gained 2<sup>nd</sup> place in the 2015 International RoboCup Rescue competition by developing a **C++ wall-hole detection system** using a Microsoft Kinect RGB-D camera sensor

## Links

Software packages	<a href="#">Global Localisation</a> · <a href="#">LiDAR Odometry</a> · <a href="#">ros2-utils</a> · <a href="#">lama-odom</a> · <a href="#">pandora-hd</a>
Demos/Videos	<a href="#">Global Localisation</a> · <a href="#">LiDAR Odometry</a> · <a href="#">Robust Path-tracking</a> · <b>RELIEF</b> · <b>CultureId</b>
Publications	<a href="#">[Global Localisation]</a> · <a href="#">[LiDAR Odometry]</a> · <a href="#">[Multi-agent navigation]</a>

## Education

<b>Doctorate</b> · Electrical & Computer Engineering · Aristotle University of Thessaloniki	Sep 2018 – Jun 2023
<b>Master of Science</b> · Systems, Control, and Robotics · KTH Royal Inst. of Technology	Sep 2015 – Jun 2017
<b>Diploma</b> · 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)