

# FILOTHEOU, Alexandros

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[github.com/li9i](https://github.com/li9i) · [google.scholar](https://scholar.google.com/citations?user=Li9I) · Portfolio · References

I am an organised and meticulous person that is driven by curiosity and obedience, in particular in the robotics domain. The things I am good at I am good at because I love working with them; their common denominator is that they are either problems or solutions to problems—and I love solving problems: either through engineering, programming, mathematics, or otherwise. I am efficient, trustworthy, and dependable.

## 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

[integration](#) [ROS 2](#) [state estimation](#) [localisation](#) [autonomous navigation \(1\)](#) [\(2\)](#) [control](#) [computer vision](#)

## Some achievements so far

- Deployed €10M robotics construction project [RoBétArmé](#) after 2 years of continuous integration between 12 partners at [EDF's Hermillon hydroelectric powerplant](#) in cooperation with Bouygues Construction
- Engaging 2,000+ visitors annually since 2023 at the [AMTh museum](#) by deploying [human-robot applications](#)
- Engineered 50% boost in localisation accuracy for fleet of RFID-inventorying robots, achieving cm accuracy
- Identified bottlenecks and reduced deployment time >10x across fleet of additive manufacturing robots
- Reliable and robust ROS-ROS 2 interoperability and communication across multiple machines using [Zenoh](#)
- One of only eighteen authors of single-authored papers presented at IEEE IROS'24 (1,587 total)

## Representative work

<a href="#">Software packages</a>	<a href="#">Localisation</a> · <a href="#">Odometry</a> · <a href="#">Estimation</a> · <a href="#">ros2-utils</a> · <a href="#">lama-odom</a>
<a href="#">Demos/Videos</a>	<a href="#">Localisation</a> · <a href="#">Odometry</a> · <a href="#">Estimation</a> · <a href="#">Robust Path-tracking</a> · <a href="#">RELIEF</a> · <a href="#">CultureId</a>
<a href="#">Publications</a>	<a href="#">[Localisation]</a> · <a href="#">[Odometry]</a> · <a href="#">[Estimation/Control]</a> · Navigation: <a href="#">[Multi-agent]</a> <a href="#">[Survey]</a>

## Experience

<b>Robotics Software Engineer</b> · ITI-CERTH, Thessaloniki GR	Sep 2023 – Jan 2026
• Owner of S/W integration, DevOps, deployment, and git repository maintainer of R&D project <a href="#">RoBétArmé</a>	
• Engineered development and deployment principles for 12 S/W teams and >50 Dockerised ROS packages	
• Orchestrated fleet of concrete- and metal-additive manufacturing robots with Behaviour Trees	
• Ensured code quality via googletest and cpplint, continuous integration/deployment via CI/CD pipelines	
<b>Robotics &amp; Control Engineer</b> · ECE Dept., Aristotle University of Thessaloniki GR	Sep 2018 – Mar 2023
• Owner of everything robotics in large-scale R&D projects <a href="#">RELIEF</a> and <a href="#">CultureId</a>	
• Developed and deployed autonomous ground and aerial platforms in <a href="#">libraries</a> , <a href="#">museums</a> , and <a href="#">outdoors</a>	
• Delivered 2D/3D SLAM and collision-avoiding navigation pipelines with intuitive user GUIs using <a href="#">Qt</a> , <a href="#">teb_local_planner</a> , <a href="#">rtabmap</a> , <a href="#">karto</a> , and <a href="#">amcl</a>	
• Developed and integrated modular codebases for 18+ publications in top-tier IEEE journals/conferences	

## Volunteering

### Open-source contributions to ROS 2

- [hitch\\_estimation\\_apriltag\\_array](#) · Estimation of angle between vehicle and hitched trailer
- [pointcloud\\_to\\_ply](#) · Transformation of pointcloud into mesh and storage in .ply or .obj format

<b>Computer Vision Engineer</b> · 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 <a href="#">C++ wall-hole detection system</a> using a Microsoft Kinect RGB-D camera	

## 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