

FILOTHEOU, Alexandros

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github.com/li9i · [google.scholar](https://scholar.google.com/citations?user=Li9iAAAAJ) · Portfolio · References

I am an organised and meticulous person that is driven by curiosity and obedience, particularly 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

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|--------------------|---|
| 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

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|-----------------------------------|--|
| Software packages | Localisation · Odometry · Estimation · ros2-utils · lama-odom |
| Demos/Videos | Localisation · Odometry · Estimation · Robust Path-tracking · RELIEF · CultureId |
| Publications | [Localisation] · [Odometry] · [Estimation/Control] · Navigation: [Multi-agent] [Survey] |

Experience

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|---|---------------------|
| Robotics Software Engineer · ITI-CERTH, Thessaloniki GR | Sep 2023 – Present |
| • Owner of S/W integration, DevOps, deployment, and git repository maintainer of R&D project RoBétArmé | |
| • 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 | |
| Robotics & Control Engineer · ECE Dept., Aristotle University of Thessaloniki GR | Sep 2018 – Mar 2023 |
| • Owner of everything robotics in large-scale R&D projects RELIEF and CultureId | |
| • Developed and deployed autonomous ground and aerial platforms in libraries , museums , and outdoors | |
| • Delivered 2D/3D SLAM and collision-avoiding navigation pipelines with intuitive user GUIs using Qt , teb planner , rtabmap , karto , and amcl | |
| • Developed and integrated modular codebases for 18+ publications in top-tier IEEE journals/conferences, enabling multi-team experiments, translating novel robotics and RFID research to real-world opportunities | |

Volunteering

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|--|---------------------|
| Computer Vision Engineer · PANDORA Robotics , Thessaloniki GR | Oct 2013 – Jul 2014 |
| • Increased survivor rescue probability and gained 2 nd place in the 2015 International RoboCup Rescue competition by developing a C++ wall-hole detection system using a Microsoft Kinect RGB-D camera | |

Education

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