FILOTHEOU, Alexandros

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github.com/li9i · google.scholar · 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

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

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

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_local_planner, rtabmap, karto, and amcl
- Developed and integrated modular codebases for 18+ publications in top-tier IEEE journals/conferences

Volunteering

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

Education

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