Alexandros Filotheou

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Robotics engineer with 7+ years of experience in SLAM, localisation, autonomous navigation, control, and computer vision. Skilled in deploying solutions from simulation to real-world robots across EU-funded projects and volunteer initiatives. Proficient in ROS/ROS 2, Git, Docker, and MATLAB/Octave on Linux, with strong coding expertise in C++ and Python. Recognised for bridging research and practical deployment to deliver reliable autonomous systems.

Demos / videos	`cbgl` · `fsm` · `cultureid` · `relief` · `multi-mpc` · Portfolio
Indicative software packages	`cbgl` · `fsm-lo` · `PANDORA Hole Detection`
Indicative publications	[`cbgl`] · [`fsm`] · [`multi-mpc`]

Experience

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

- Lead software integrator and sole Git repository maintainer for the EU-funded R&D project RoBétArmé, ensuring code quality and streamlined collaboration
- Designed, organised, and deployed 50+ Dockerized ROS/ROS 2 packages and supporting software across real and simulated ground mobile robotic platforms and computing units
- Implemented robust ROS-ROS 2 interoperability across multiple machines, enabling seamless communication and system integration

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

- Technical lead for robotics in NSRF R&D projects Relief and CultureId: system design, implementation, and deployment
- Developed and deployed SLAM, autonomous exploration & navigation, 3D reconstruction, and intuitive GUI tools for both real and simulated ground and aerial robotic platforms
- Reduced RFID-tag localization error 2x by optimizing and robustifying LIDAR-based particle and Kalman filter pose estimation, achieving 2x improvement in accuracy
- Designed and deployed interactive human–mobile-robot applications, used by 3,000+ visitors at the Archaeological Museum of Thessaloniki since early 2023
- Coauthored & supported implementation behind 18 high-impact publications in top-tier journals and conferences

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

- MSc students' evaluator for *DD2380 - Artificial Intelligence* under Prof. Patric Jensfelt

Voluntary Experience

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 camera for the international RoboCup Rescue competition

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

Skills

Languages	`C/C++`, `Python`, `shell`, `MATLAB/Octave`
{Meta-}Operating Systems	`Linux`, `ROS 2`, `ROS`
Tools	`git`, `Docker`, Eigen, Behavior Trees, Gazebo, `CI/CD`, `Qt` / `Tkinter`, `OpenCV`
Control Techniques	MPC, PID, LQR

Languages

English Fluent — IELTS Score 8.5 (Greek Native)

References

Dr. Antonis Dimitriou · Coordinator of R&D projects · (+30) 697 88 96 350 · antodimi@auth.gr

For a complete list of references, whether they be supervisors or coworkers, visit

`https://github.com/li9i/cv/tree/master/references`