Alexandros Filotheou

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Portfolio

Robotics engineer with 9+ years of experience in system integration, state estimation, SLAM, localisation, autonomous navigation, control, perception, and computer vision. Skilled in deploying solutions from simulation to real-world robots across EU-funded R&D projects and volunteer initiatives. Proficient in ROS/ROS 2, git, Docker, and MATLAB/Octave, in 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`
Example software packages	`ros2-utils` · `cbgl` · `fsm-lo` · `lama-odom` · `pandora-hole-detection`
Example publications	[Global Localisation] · [LiDAR Odometry] · [Multi-agent navigation]

Experience

Robotics Engineer · ITI-CERTH, Thessaloniki GR — Sep 2023 – Present
- Owner of software integration and sole git repository maintainer in EU-funded R&D project RoBétArmé
- Designed organisation and deployed 50+ Dockerised ROS/ROS 2 packages, use case orchestration via Behaviour Trees, and supporting software across multiple real and simulated mobile robotic platforms
- Achieved robust ROS-ROS 2 interoperability and communication across multiple machines
- Ensured code quality, continuous integration/deployment, and coordinated collaboration

Robotics & Control Engineer · ECE dept., Aristotle University of Thessaloniki GR — Sep 2018 – Mar 2023
- Technical robotics lead in large-scale R&D projects RELIEF and CultureId
- Owner of system design, SW implementation, deployment of autonomous ground and aerial platforms
- Delivered production-grade 2D/3D SLAM and navigation pipelines with intuitive user GUIs
- Improved RFID-tag localisation accuracy 2x through robustifying LiDAR-based filtering
- Deployed human–mobile-robot applications at the AMTh museum, engaging 3,000+ visitors since 2023
- Built and integrated codebases that powered 18+ publications, enabling multi-team experiments and advancing real-world applications through novel robotics research

Teaching Assistant · KTH Royal Institute of Technology, Stockholm SE — Sep 2016 – Nov 2016
- *DD2380 - Artificial Intelligence* under Prof. Patric Jensfelt

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

Volunteering

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 for the international RoboCup Rescue competition, gaining 2nd place in 2015

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

Languages

English: Fluent — IELTS Score 8.5 (Greek Native)

References

- Antonis Dimitriou · Coordinator of R&D projects · (+30) 697 88 96 350 · antodimi@auth.gr
- A complete list of professional references, including supervisors and colleagues, may be found at

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