Vaios Papaspyros

PhD Candidate in Machine Learning & Robotics @ EPFL

General Information

Nationality: Greek
Birthday: 28/04/1994

Professional Disciplines

Computer Science & Engineering;
Robotics;
Machine Learning;
Collective Behaviour;
Swarm Intelligence

Mail

vaios.papaspyros@ gmail.com

Web & Git

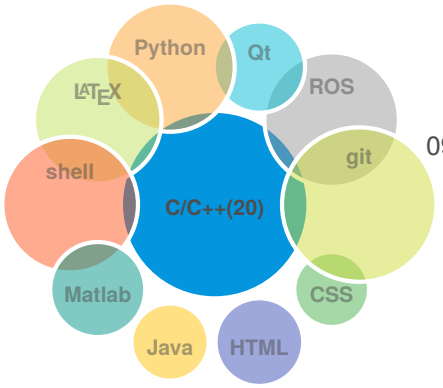
Personal Website
Twitter
LinkedIn
Github
Bitbucket

Languages

Greek (native) ★★★★★
English (C2) ★★★★★
French (B2) ★★★★☆

Technical skills

Data analysis;
Software design;
Systems & Robot programming



Experience

06/18 - *Now* **Doctoral Assistant** EPFL, Lausanne, Switzerland

Team: Mobots @ Francesco Mondada Group (FMO1).
Research Topic: Self-Adaptive Mixed Societies of Animals and Robots.
Thesis director: Francesco Mondada.
Funding: Swiss National Science Formation (SNF).

03/18 - 05/18 **Research Intern** EPFL, Lausanne, Switzerland

Team: Mobots @ Laboratoire de Systèmes Robotiques (LSRO).
Research Topic: Self-Adaptive Mixed Societies of Animals and Robots.
Supervisors: Frank Bonnet, Francesco Mondada.

06/17 - 11/17 **Research Engineer** MEAD, Univ. of Patras, Patras, Greece

Team: EuroSWARM team @ Applied Mechanics Lab.
Research Topic: Unmanned Heterogeneous Swarm of Sensor Platforms.
Funding: European Defense Agency (EDA) "EuroSWARM" Project.

05/16 - 10/16 **Research Intern** Inria Nancy Grand-Est, Nancy, France

Team: LARSEN/Resibots.
Internship Title: Intelligent Trial & Error with the iCub humanoid robot.
Research Topic: Robot damage recovery with safety constraints.
Supervisor: Jean-Baptiste Mouret.
Funding: European Research Council (ERC) "ResiBots" Project.

Education

06/18 - *Now* **Doctor of Philosophy - PhD Candidate** EPFL, Lausanne, Switzerland
Robotics, Control, and Intelligent Systems.

09/12 - 11/17 **M.Eng in Computer Engineering & Science** Univ. of Patras, Patras, Greece
GPA: 7.35 / 10
Diploma Thesis Subject: Safety-Aware Intelligent Trial-and-Error for Robot Damage Recovery.
Grade: 10/10.
Supervisors: Ioannis Hatzilygeroudis, Jean-Baptiste Mouret.
Related Publications: "Safety-Aware Robot Damage Recovery Using Constrained Bayesian Optimization and Simulated Priors".

09/10 - 06/12 **High School** Costeas-Geitonas School, Athens, Greece
GPA: 19.2 / 20

Teaching Experience

- **Winter Semester**

2020-2022 **Basics of Mobile Robotics** EPFL
2h / week - 1st year Master of Robotics

- **Spring Semester**

2020-2022 **Robotics practicals | Robot Operating System (ROS) basics** EPFL
4h / week - 1st year Master of Robotics

Publications

- **Journals**

Apr 2023 *"Predicting long-term collective animal behavior with deep learning"*,
Papaspyros V, Escobedo R, Alahi A, Theraulaz G, Sire C, Mondada F.
Preprint/Under review

Apr 2022 *"The role of feedback and guidance as intervention methods to foster computational thinking in educational robotics learning activities for primary school"*,
Chevalier M, Giang C, El-Hamamsy L, Bonnet E, **Papaspyros V**, Pellet JP, Audrin C, Romero M, Baumberger B, Mondada F. Computers & Education

Sept 2020 "A data-driven method for reconstructing and modelling social interactions in moving animal groups",
El-Hamamsy L, **Papaspyros V**, Kangur T, Mathex L, Giang C, Skweres M, Bruno B, Mondada F. Philosophical Transactions of the Royal Society B

Aug 2019 "Bidirectional interactions facilitate the integration of a robot into a shoal of zebrafish Danio rerio",
Papaspyros V, Bonnet F, Collignon B, Mondada F. PLOS One

- **Peer-Reviewed Conferences/Workshops**

Dec 2021 "Exploring a handwriting programming language for educational robots",
El-Hamamsy L, **Papaspyros V**, Kangur T, Mathex L, Giang C, Skweres M, Bruno B, Mondada F. RiE

Dec 2016 "Safety-aware robot damage recovery using constrained bayesian optimization and simulated priors",
Papaspyros V, Chatzilygeroudis K, Vassiliades V, Mouret JB. BayesOpt NIPS

Reviewing Experience

IEEE IROS	2023, 2022, 2021, 2020
IEEE RO-MAN	2022
AAMAS	2021
IEEE IISA	2019
BayesOpt	2017

Open-source project contributions

C/C++ **Author to Behavioural Observation & Biohybrid Interaction (BOBI) framework**
BOBI is ROS-based code that supports a robot-animal experimentation setup.

C/C++ **Author to Lurebot low-level control code**
The repository contains the low-level code that allows the LureBot to communicate with high-level systems (*e.g.*, BOBI)

Python **Author to Fish INteraction moDeling framework (find)**
"find" contains analysis and modelling tools (primarily) aimed at fish behaviour

C/C++ **Co-author to robot_dart**
robot_dart is a flexible and generic C++11 wrapper for DART and is suitable for evolutionary computation.

C/C++ **Contributor to limbo**
limbo is a highly templated C++11 Bayesian optimization framework.

Honors & Awards

05/2018 **SwissZebra Conference**
3rd prize for best poster (100 CHF).

Interests

- Machine Learning & AI
- Robotics
- Programming
- Basketball & Music