Andrea Nisticò

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About me. I am a young and motivated roboticist with a strong interest in software architectures, applied control and an international background. I love challenges and learning from the others, I maturated a deep interest in MAVs (Micro Aerial Vehicles) and aerial technology during my master thesis.

Education

Academic Qualifications

- **Università di Genova** — **Genoa, Italy**
  MEng EMARO European Master on Advanced Robotics, 104/110 — *2014–2015*
  Double Degree Program (II Year)
  First in score ranking
- **École Centrale de Nantes** — **Nantes, France**
  MEng EMARO European Master on Advanced Robotics — *2013–2014*
  Double Degree Program (I Year)
- **Università di Roma Tor Vergata** — **Rome, Italy**
  BEng Engineering Sciences , 110/110 Cum Laude — *2010–2013*
  Mechatronics background, strong basis in physics and mathematics

Extras

- **Doulos Online course** — **doulos.com**
  FreeRTOS Real-Time Programming — *December 2020*
  Theory and exercises on Real-Time concepts, development of real time applications with FreeRTOS
- **B9Lab Online course** — **b9lab.com**
  Ethereum developer certification — *October 2018*
  Blockchain theory, development of decentralised applications on the Ethereum platform
- **B9Lab Online course** — **b9lab.com**
  HyperLedger Fabric developer certification — *October 2018*
  Blockchain theory, how HyperLedger works and hands-on projects with HLF framework
- **Università di Genova** — **Genoa, Italy**
  RegML PhD course — *Summer 2017*
  Theory and exercises on regularization methods for machine learning
- **University of Oulu** — **Oulu, Finland**
  TRADR/EuRathlon Summer School on heterogeneity in robotics — *Summer 2016*
  Theory and exercises on different robotics systems (UAVs and ground vehicles)
- **Fraunhofer institute** — **Bonn, Germany**
  TRADR Summer School on Autonomous Micro Aerial Vehicles — *Summer 2015*

Employment

- **Teseo Srl** — **Genoa, Italy**
  Researcher and Software Developer — *June 2018–Now*
  Development of ambient intelligence solutions for the Kibi project: indoor localization for elderly care applications on embedded wearable devices
- **University of Genova** — **Genoa, Italy**
  Teaching assistant — *September 2017–Now*
  Teaching and conducting lab sessions on Robot Programming to master students. Main topics are: ROS programming and GazeboSim

- **University of Genova** — **Genoa, Italy**
  Research Fellow — *February 2016–February 2018*
  Development of a framework for autonomous navigation, target location and landing on a moving target for UAVs

- **Italian Institute of Technology** — **Genoa, Italy**
  Intern at iCub Facility — *Summer 2014*
  Investigation of a possible new middleware protocol for the iCub robot based on DDS protocol

- **University of Roma Tor Vergata** — **Rome, Italy**
  EFMC9 Staff — *September 2012*
  Worked as part of the organizing staff at the 9th European Fluid Mechanics Conference

Relevant Experience

- **Kibi Development:**
  'Software development and hardware design'
  Kibi is a product under development in Teseo Srl. It is a solution for domestic elderly care assistance which is composed of: an indoor localization module using BLE technology, gesture recognition module which has the aim to classify different gesture types and an AI module that collects the underlying data and outputs a friendly aggregate. In this context, I am designing the hardware specifications and developing firmware for the wearable devices and anchors which will collect inertial and location data and localize the patient.
- **Research Fellowship:**
  'Software design for controlling aerial vehicles undergoing cooperative tasks with ground/marine robots'
  My work was conducted in the context of the Italian project MAREA, a consortium of universities and companies working on robots cooperation and management under search and rescue scenarios. I developed a software, written in C++ under Linux environment, for managing general flight missions as well as performing automatic landing on a floating platform. During my work as researcher I supervised master students for group projects and co-supervised 2 bachelor thesis.
- **Masters Thesis:**
  'Algorithms for controlling and tracking UAVs in indoor scenarios'
  Integration of an Optitrack motion capture system and development of a Qt ground station enabling the robot to perform lists of tasks in an autonomous way. Design and testing of an algorithm for automatic landing on moving targets.
- **University Experience:**
  Hands-on and theoretical experience in: path planning, AI, linear / non-linear analysis of dynamical systems, control and state estimation, optimization algorithms, embedded systems, mobile robots and robot modeling, programming of industrial manipulators.

Publications

Conferences

- **Nisticò A.**, Baglietto M., Casalino G., Simetti E., Sperindè A., *"Marea project: UAV Landing procedure on a moving and floating platform"*: Oceans '17 MTS/IEEE , September 18, 2017, Anchorage, USA.

Technical and Personal Skills

- **Programming Languages:** C , C++, Solidity (proficient), Kotlin; Python, C-Sharp, JavaScript (intermediate)
- **Tools and frameworks:** ROS, LCM middleware, Matlab and Simulink, Git and Travis CI, Truffle, Android app development (Advanced); PX4 Autopilot Firmware, Embedded STM32 programming with CubeMX configurator,FreeRTOS, CMake, make and gcc toochain, Vagrant (Intermediate); OpenCV, Qt5, NodeJS (Basic).
  Very good knowledge of Linux environment as a development tool.
- **General Business Skills:** Good presentation skills and problem solving, Works well in a team.

- **Other:** Experience with embedded systems, Qt libraries, and MavLink protocol. Basic experience with Unity3d game engine. Can write well organized and structured reports.
- **Languages:** English (Fluent), French (Basic), Italian (Native).

Links

- Certificates:
  - FreeRTOS Online training (short link): `https://bit.ly/3ppdcOF`
  - Ethereum (short link): `https://bit.ly/2ExiR1h`
  - HyperLedger Fabric (short link): `https://bit.ly/2R4wjk4`
- Personal Github: `https://github.com/andrea-nisti`
- EMAROLab Github: `https://github.com/EmaroLab`
- Projects in EMAROLab repository:
  - Mission management and task execution for UAVs: `https://github.com/EmaroLab/mocap2mav`

References

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