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 matured a deep interest in MAVs (Micro Aerial Vehicles) and aerial technology during my master thesis.

Work Experience

Teseo Srl
Genova, Italy

RESEARCHER AND SOFTWARE DEVELOPER
Jun. 2018–Now

Development of ambient intelligence solutions for the Kibi project: indoor localization and monitoring for elderly care applications on embedded wearable devices.

- Developed an Android WearOS application for elderly care monitoring; main features: indoor localization (BLE + Neural network classifier), fall detection, inactivity detection, device authentication and management trough RESTful API
- Designed, implemented and tested a fall detection algorithm based on inertial and barometric pressure data
- Developed a mobile Android application in Kotlin as a user companion app for system management
- Defined the technical specifications (both fucntional specification and desired peripherals/sensors) of an embedded board intended as a wearable smartwatch
- Developed a prototype firmware enabling a fall detection algorithm on the custom board, based on a STM32 ARM Cortex-M4 microcontroller
- Developed a simple driver for an SRAM module
- Debugging and testing of the prototype firmware

Università degli studi di Genova
Genova, Italy

RESEARCHER, AERIAL ROBOTICS
Feb. 2016 – Feb. 2018

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.

- Developed a software, written in C++ under Linux environment, for managing general flight missions
- Designed and integrated a task for automatic landing on a floating and moving platform
- Integration of a companion computer (Raspberry Pi 3) with the PixHawk flight controller
- Supervised master students for group projects and co-supervised 2 bachelor thesis an one master thesis

Università degli studi di Genova
Genova, Italy

TEACHING ASSISTANT
Sep. 2017–Now

- Teaching and conducting lab sessions on Robot Programming to master students. Main topics are: ROS programmingand GazeboSim
- Teaching and conducting lab sessions on C++ to bachelor students

Università degli studi di Genova
Genova, Italy

MASTER THESIS: ALGORITHMS FOR CONTROLLING AND TRACKING UAVS IN INDOOR SCENARIOS
Mar. 2014–Oct. 2015

- Integration of an Optitrack motion capture system with the PX4 autopilot estimation algorithms
- Contributed to the development of the motion capture position estimation module of the PX4 open source autopilot
- 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

Università degli studi di Roma Tor Vergata
Roma, Italy

MANAGEMENT STAFF @ EFMC9 CONFERENCE
Sep. 2012

- Worked as part of the organizing staff at the 9th European Fluid Mechanics Conference

Education

ACADEMIC QUALIFICATIONS

Ecole Centrale de Nantes (I Year), Università degli studi di Genova (II year) *Nantes, France; Genova, Italy*

MASTER DEGREE IN ROBOTICS ENGINEERING: EUROPEAN MASTER ON ADVANCED RObotics, EMARO *Sept. 2013 - Oct. 2015*

- Double degree program
- Ranked first in global class score

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

Università di Roma Tor Vergata *Roma, Italy*

BACHELOR DEGREE IN ENGINEERING SCIENCES *Sept. 2010 - Oct. 2013*

- First engineering course thought in english
- Strong foundation on scientific subjects, mechatronics background
- Score 110/110 cum laude

Strong foundation in: mathematics, phisics, dynamic and static mechanics, electronics

EXTRAS

Doulos *Online*

PROGRAMING ON ARM CORTEX-M CERTIFICATE *June 2021*

- Certificate short link: `https://bit.ly/3Aj9CvK`

One week course with instructor. Theory and labs on Cortex M programming

Doulos *Online*

FREERTOS TRAINING *December 2020*

- Certificate short link: `https://bit.ly/3ppdcOF`

One week course with instructor. Theory and labs on FreeRTOS

B9Lab *Online*

ETHEREUM/HYPERLEDGER DEVELOPER CERTIFICATION *October 2018*

- Ethereum certificate short link: `https://bit.ly/3ppdcOF`
- Hyperledger certificate short link: `https://bit.ly/2R4wjk4`

3 months training and project delivery on Ethereum and Hyperledger blockchain development

Various

SUMMERSCHOOLS *2015 to 2017*

- RegML PhD course @ Università di Genova, Italy: Theory and exercises on regularization methods for machine learning
- TRADR/EuRathlon Summer School on heterogeneity in robotics @ University of Oulu, Finland: cooperative robotics, state estimation and path following with ground and aerial vehicles
- TRADR Summer School on Autonomous Micro Aerial Vehicles: theoru and exercises on modeling, control and state estimation of aerial vehicles

Skills & Interests

Programming	C/C++ (advanced), Kotlin (advanced), MATLAB (intermediate), LaTeX, C# (Basic), Python (Basic), Solidity (Basic), Rust (learning)
Software Tools	Make, CMake,gcc/g++ gcc-arm, Git, Travis CI, Catia CAD design (basic)
IDEs	Visual Studio Code, CLion, Android Studio, STM32 Cube IDE/CubeMX, Eclipse
Embedded systems knowledge	ARM Cortex M4 programming, FreeRTOS, BLE, good understanding of common peripherals
Libraries and frameworks	FreeRTOS, ROS, LCM, Android SDK, Retrofit, RxJava, Vagrant, OpenCV (basic), Qt5 (basic)
Languages	Italian (native), English (full professional proficiency)

Publications

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