

Andrea Nisticò

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About me

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 with 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 through 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 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/M0 dual core microcontroller
- Developed a simple driver for an SRAM module
- Debugging and testing of the prototype firmware, participated to the opensource debugging of ST peripheral drivers

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, co-supervised 2 bachelor thesis and 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 programming and 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

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

Strong foundation in: mathematics, physics, 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/3ppdc0F>

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/3ppdc0F>
- 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: theory and exercises on modeling, control and state estimation of aerial vehicles

Skills & Interests

Programming	C/C++, Kotlin (advanced), MATLAB, C#, Python, \LaTeX (intermediate), Rust (learning)
Software Tools	Make, CMake, gcc/g++ gcc-arm, Git (advanced), 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 and sensors
Libraries and frameworks	FreeRTOS, ROS, LCM, Android SDK, Retrofit, RxJava (advanced), Vagrant, Boost, Eigen (int.), OpenCV, Qt5 (basic)
Operative Systems	Works well under Linux and Windows
Microsoft Suite	Word, Powerpoint, Excel, Outlook, OneNote, Teams
Languages	Italian (native), English (full professional proficiency)
Soft	Can write well structured reports, good presentation skills due to teaching experience.

Passionate about the application of technology to everyday problems, I like to be updated with the last trends, especially in computing, gaming and electronics. Growing exponentially interest in embedded firmware design since I am intrigued by the implied challenges and applications; wishing a career in software architecture for embedded systems with real time constraints and critical scenarios.

Avid sport climber on my free time who still enjoys PC gaming with friends on rainy days, likes to follow online courses during the last drops of free time.

Publications

- **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.