



Andrea Vannini

Address: Via Arcana 100, 00100, Roma, Italy (Phone)

WORK EXPERIENCE

31/03/2019 – CURRENT Pisa, Italy

SOFTWARE DEVELOPERS THE BIOROBOTICS INSTITUTE OF SANT'ANNA SCHOOL OF ADVANCED STUDIES

Contacted by engineer Stefano Roccella, I left my freelance job to join the Sant'Anna School of Advanced Studies team aim to participate in the MBZIRC 2020 international robotics competition.

<https://www.ku.ac.ae/us5-million-mbzirc-2020-winners-awarded>

<https://www.santannapisa.it/en/node/49681>

As an expert programmer in computer vision, I created the vision system for drones and algorithms for multi-vehicle communication in flight using my knowledge of python, c++ and openCv libraries. During the first experience I learned the basics for autonomous navigation of flying robots, the importance of the ROS system and flight management software (Ardupilot / PX4). With the prestigious 4th place obtained at the MBZIRC challenge, I was reconfirmed in the team. Over the I have been entrusted with numerous new projects and responsibilities, among the most important are:

UAVIMALS, a project funded by National Geographic, is a collaboration with the university "La Sapienza" of Rome, of which I was the chief developer for the realization of the software (python, MATLAB) for creating point clouds using low-cost LIDAR.

<https://www.uniroma1.it/it/notizia/archeologia-3d-un-drone-permetterà-di-rilevare-strutture-sepolte-non-ancora-indagate-e-di>

INGENE 2.0 for the realization of a wireless sensor for the measurement of joint mobility in patients suffering from neurodegenerative diseases, of which I realized the communication software and the acquisition interface with python and QT libraries.

<http://ingene.eu/project/it>

3rd place 2022 IEEE UAV Chase Challenge (Ri4rover) international robotics competition organized by Purdue University.

1st place 2023 IEEE UAV Chase Challenge (Ri4rover) international robotics competition organized by Purdue University, as lead developer I supervised and designed the entire software system of the drone, coordinating the group of students at the school and integrating the developed codes into my state machine for autonomous driving.

<https://ri4rover.org/index.html>

<https://ri4rover.org/leaderboard.html>

<https://www.raipaly.it/video/2023/07/Droni-i-nuovi-utilizzi-per-le-situazioni-demergenza---Noos---Lavventura-della-conoscenza-27072023-48928a08-a6bf-407d-989c-8999a10f7ff9.html>

Publications & Appearances

Design and development of drones to autonomously interact with objects in unstructured outdoor scenarios, DOI: [10.55417/fr.2021005](https://doi.org/10.55417/fr.2021005)

AUTOMA: a wearable device to assess the upper limb muscular activity in patients with neuromuscular disorders, DOI: [10.36185/2532-1900-057](https://doi.org/10.36185/2532-1900-057)

UAVIMALS: THE "OPEN" REMOTE SENSING SYSTEM FOR SURFACE ARCHAEOLOGICAL INVESTIGATIONS, <https://doi.org/10.5194/isprs-archives-XLVIII-4-W7-2023-239-2023>

Maker Faire Rome 2022, <https://makerfairerome.eu/en/edizioni/2022-2/>

Technology For ALL 2023, Rome, <https://technologyforall.it/>

NEW SPACE ECONOMY 2023 <https://www.nseexpoforum.com/>

Archeo.FOSS 17 2023, <https://www.archeofoss.org/2023/>

● **EDUCATION AND TRAINING**

19/12/2010 Siena , Italy
SCIENZA E TEORIA DELL'INFORMATICA 26 - CLASSE DELLE LAUREE IN SCIENZE E TECNOLOGIE INFORMATICHE Università degli Studi di SIENA Facoltà di Scienze Matematiche Fisiche e Naturali, Siena (Italia)

Address via Banchi di Sotto 55, 53100, Siena , Italy | **Website** <https://www.unisi.it/> | **Final grade** 110 cum laude

● **LANGUAGE SKILLS**

Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	B1	B1	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● **DIGITAL SKILLS**

Machine Learning and Deep Learning frameworks Tensorflow Keras PyTorch | Python | Linux | C++ | C | Microsoft Office | Numpy | LaTeX | Machine Learning | Computer Vision | Linux (Terminal Commands, Bash/Shell) | OpenCv | Proficient in Python Java Javascript C C++ and some knowledge of Matlab | ROS(robot operating system) | Ardupilot / PX4

● **DRIVING LICENCE**

Driving Licence: A

Driving Licence: B

● **BLSD - BASIC LIFE SUPPORT DEFIBRILLATION**

16/11/2020 – 27/09/2024
BLSD - Basic Life Support Defibrillation

Cardiopulmonary resuscitation course and use of the semi-automatic defibrillator for all age groups for non-professional personnel