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Personal information

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Nationality	Italian
Date of birth	July, 23 1989
Gender	Male

Professional affiliations

2016 to today	IEEE (Institute of Electrical and Electronic Engineers), Student Member
2016 to today	IEEE Control Systems Society, Student Member
2016 to today	IEEE Robotics and Automation Society, Student Member
2017 to 2018	IEEE Power Electronics Society, Student Member

Academic appointments

Date	From December 2019 to today
Employer	University of Sannio in Benevento, ITALY
Type of business or sector	Research activity
Kind of employment	Recipient of a scholarship at Department of Engineering
Main tasks and responsibilities	Scholarship post degree entitled "**Modeling and simulations of flight control systems for UAV**.
Date	From May 2016 to November 2016
Employer	University of Sannio in Benevento, ITALY
Type of business or sector	Research activity
Kind of employment	Recipient of a scholarship at Department of Engineering

Main tasks and responsibilities	Scholarship post degree entitled “**Advanced control systems for the coordination among terrestrial autonomous vehicles and UAVs**” among the project “Diversification of production through the creation of a development environment for mobile advertising functions aimed at intelligent mobility”.

Professional appointments

Date	From February 2015 to December 2018
Employer	EMCelettronica S.r.l. Via Sestio Calvino 132, 00174 Rome (ROME), ITALY
Type of business or sector	Periodical publications in the fields of electronic design and telecommunications
Kind of employment	Freelance Technical Writer for magazines “**EOS-Book**” and “**Firmware**”
Main tasks and responsibilities	Writing of technical - IT articles for online magazines “**Eos-Book**” and “**Firmware**”. The activity concerns all the sectors in which electronics are part, both Microcontrollers (Microchip PIC, Renesas, etc.) and Power (SMPS Power Supplies, Motor Control, Industrial Automation, etc.) with particular regard to regulations concerning electronics and production technical specifications. The objective is to provide readers with a prototyping service, realizing the electronic project in all its hardware and firmware parts, thus facilitating the management of electronic systems.
Date	April 2016
Employer	Software Engine S.r.l. Via Giuseppe Maffei 20, 83029 Solofra (AVELLINO), ITALY
Type of business or sector	Software production, IT consulting and related activities
Kind of employment	Junior Software Engineer
Main tasks and responsibilities	Web Developer (specialized in front-end development) responsible for the care (maintenance, debugging) and implementation of HTML5 and CSS3 templates (following the mobile-first responsive phosphism and particular attention to crossbrowsing), javascript integrations (jQuery, Angular-js) and back-end integrations (Java), as well as management and implementation of relational databases and debugging.
Projects completed	**Software developer for a management system**. Software development for the management of the practices presented under the law 219/81 and ss.mm.ii. for the town of Mirabella Eclano.
Date	From July 2015 to August 2015
Employer	Inware Edizioni S.r.l. Via Giotto 7, 20032 Cormano (MILAN), ITALY
Type of business or sector	Periodical publications in the fields of electronic design and telecommunications
Kind of employment	Freelance Technical Writer for the magazine “**Fare Elettronica**”
Main tasks and responsibilities	Writing of technical articles of an electronic and electrotechnical nature for the online magazine “**Fare Elettronica**”. The activity concerns all the sectors in which electronics has an active part, from the design of systems involving Microcontrollers (Microchip PIC, Arduino, Rapsberry PI, Renesas, etc.) up to the Electronic Power Systems (SMPS power supplies, motor control, industrial automation, etc.) with particular regard to the regulations concerning electronics and production specifications. The objective is to provide readers with a prototyping service, realizing the electronic project in all its hardware and firmware parts, thus facilitating the management of electronic systems, enriching or bridging the theoretical knowledge possessed.
Date	From June 2014 to June 2015
Employer	Edizioni Master S.p.A. Via B. Diaz 13, 87036 Rende (COSENZA), ITALY
Type of business or sector	Periodical publications in the fields ICT, Home Entertainment and General Interest
Kind of employment	Freelance Technical Writer for the magazine “**Win Magazine**”

Main tasks and responsibilities	Writing of technical - IT articles for the magazine "**Win Magazine**". The activity concerns the description of "custom" procedures aimed at informing, in the most detailed way possible, by articulating the information on different points, on the latest news in the DIY audio & video world, for the use of audiovisual content, and on software systems, illustrating the features of the latest market findings and the tricks to use them to the fullest. In addition, the so-called "pirate" procedures, techniques for accessing content or services that are normally not available, are investigated.
Date	From April 2015 to June 2015
Employer	Ridble S.r.l. Via San Martino 11/A, 20122 Milan (MILAN), ITALY
Type of business or sector	Periodical publications in the fields ICT, Home Entertainment and General Interest
Kind of employment	Junior Editor
Main tasks and responsibilities	Daily news reporter and reviewer on mobile technologies (smartphones and tablets), other devices (PC, notebook, drones), mobile networks, mobile operators, new technologies, social networks, and crowdfundings projects.
Date	From August 2012 to January 2013
Employer	Mosaico Monitoraggio Integrato S.r.l. Via Pirandello s.n.c., 82100 Benevento (BENEVENTO), ITALY
Type of business or sector	Industrial Automation - Integrated Monitoring
Kind of employment	System Integrator
Main tasks and responsibilities	Design and implementation of control systems for industrial automation based on **PLC** (Programmable Logic Controller) and **SCADA** (Supervisory Control And Data Acquisition). Design and development of "customized" machines for industrial production. Analysis of the electrical system and mechanical components. Design and development of command logic, distributed supervision system, human-machine interfaces, interconnection to process databases for process management.
Projects completed	**Storage and loading system in autoclaving soda autoclaves**. Design and development of the system, analysis of the control system, compliance with safety functions. **Leaching process of the blades core for high performance turbines**. Design and development of the system, analysis of the control system, compliance with safety functions.

Education and training

Type	PhD in Information Technology for Engineering - XXXII cycle
Date	From December 2016 to today
Name and type of educational institution	Department of Engineering - University of Sannio in Benevento, ITALY
Thesis title	**Software-in-the-loop methodologies aimed to analyze and control small UAV systems**; advisor Prof. Luigi Iannelli
Qualification achieved	Doctorate of research (3 years)
Date	From March 2019 to November 2019
Name and type of educational institution	Centre National de la Recherche Scientifique (CNRS) - Laboratoire d'Analyse et d'Architecture des Systèmes (LAAS), Robotics and Interactions (RIS).
Type of business or sector	Research Institute
Kind of employment	PhD visiting student working with Dr. Antonio Franchi and his team.
Main tasks and responsibilities	**Control of full-actuated 6DoF robots with onboard sensors** [1]

Type	Master Degree in Electronic Engineering for Automation and Telecommunication
Date	From September 2012 to March 2016
Name and type of educational institution	Department of Engineering - University of Sannio in Benevento, ITALY
Thesis title	**Development of a simulator aimed to detect and track moving objects for UAVs**; advisor Prof. Luigi Iannelli
Qualification achieved	Master degree (2 years)
Level in national classification	Vote 110/110 with full marks - Laureate on March 23rd, 2016

Type	Bachelor Degree in Computer Engineering
Date	From September 2008 to July 2012
Name and type of educational institution	Department of Engineering - University of Sannio in Benevento, ITALY
Thesis title	**An Object Oriented approach aimed to the creation of control software for industrial processes**; advisors Prof. Luigi Iannelli and Eng. Paolo Rubino.
Qualification achieved	Bachelor degree (3 years)
Level in national classification	Vote 105/110 - Laureate on July 19th, 2012

Date	From February 2012 to July 2012
Employer	Mosaico Monitoraggio Integrato S.r.l. Via Pirandello s.n.c., 82100 Benevento (BENEVENTO), ITALY
Type of business or sector	Industrial Automation - Integrated Monitoring
Kind of employment	Internship
Main tasks and responsibilities	**Training internship for thesis work**. The aim was to show the benefits that can be obtained from the use of a software production methodology developed by using an Object Oriented (OO) approach. The production methodology, realized for Programmable Logic Controllers (PLCs), was drawn up by applying the concepts introduced by the IEC 1131-3 standard and defined by setting as main objectives the increase of the software quality, the reduction of the time and costs of development of new control applications, hence the need to increase the reuse of already existing and tested modules, ensuring the readability of the entire structure through proper documentation. The result was an open system, realized in such a way as to add features not foreseen in the initial phase of development.

Skills and competences

Mother tongue **Italian**

Other language English

Self-assessment *European level*(*)	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
English	B2 Independent user	B2 Independent user	B2 Independent user	B2 Independent user	B2 Independent user

(*) *Common European Framework of Reference* (CEF) level

Certificate of attendance: February 14th, 2017. Certificate of attendance at the **English language course PET level B1**, organized by the University Linguistic Center of the University of Sannio. The course was held in the period October 2016 - February 2017 and had a total duration of 70 hours.

Organization skills: Good team spirit matured both in the university (during group work and activities) and in the recreational activities carried out in different contexts.

Technical skills

Good knowledge of **programming languages** C, C++, Ladder, Visual Basic, SQL, Java, Verilog, HTML, MIPS, CMake, CMS, such as Wordpress and Joomla, and Jekyll.

Discrete knowledge of languages XML, Xacro (XML Macro) and Python.

Good familiarity with the use of the tin soldering iron on small and medium-scale integrated circuits.

Excellent knowledge of Windows and Linux operating systems (i.e., Ubuntu, Raspbian, CentOS, etc.)

Good knowledge of ROS (Robot Operating System), GenoM (Generator of Modules) and robotic simulation environments like Gazebo, V-REP and Matlab Virtual Reality Toolbox.

Excellent knowledge of the Microsoft Office package and the LaTeX and Markdown markup languages. Among the authors and managers of the TeX repository "**europecv**". CTAN (Comprehensive TeX Archive Network) profile available at link https://ctan.org/home/g.silano. Moreover, the LaTeX open-source template shared through the well-know platform Overleaf is available at the link to help young students[1] in writing their thesis in LaTeX. Finally, with the same goal, at the link was provided a collection of LaTeX drawings made using the *tikzpicture* LaTeX package.

Good knowledge of software Matlab, Simulink, Robotics System Toolbox, Computer Vision Toolbox, Stateflow, LabView, RSLogix, RSView, Photoshop and hardware devices like Arduino, Ardupilot, DSP.

Mastery in the use of systems for the control of distributed versions (Mercurial and Git) and continuous integration systems, such as Jenkins and TravisCI. Personal GitHub page available at the link https://github.com/gsilano.

Minor contributions on open-source software packages *styles*.

Drive license

Category B

Other information

Courses during PhD studies with exams[2]

[ECTS1] October 19th, 2018. **Operations Research[3]** exam, 6 ECTS, Prof. Pasquale Avella, University of Sannio in Benevento, Italy.

[ECTS2] July 30th, 2018. **Stochastic Processes** exam, 3 ECTS, Prof. Maurizio Di Bisceglie, University of Sannio in Benevento, Italy.

[ECTS3] July 16th, 2018. **Software Engineering** exam, 9 ECTS, Prof. Massimiliano Di Penta, University of Sannio in Benevento, Italy.

[ECTS4] December 11st, 2017. **Probability** exam, 3 ECTS, Prof. Carmela Galdi, University of Sannio in Benevento, Italy.

[ECTS5] November 6th, 2017. **Geometric Control** exam, 3 ECTS, Prof. Navdeep M. Singh, University of Sannio in Benevento, Italy.

[ECTS6] September 29th, 2017. **Tools and applications of numerical analysis** exam, 6 ECTS, eng. Adele Fusco, University of Sannio in Benevento, Italy.

[ECTS7] May 31st, 2017. **Advanced Mathematics** exam, 6 ECTS, Prof. Giuseppe Cardone, University of Sannio in Benevento, Italy.

[1] The template is specific for students of the University of Sannio but can be easily customized to be compatible for any university.
[2] ECTS: European Credit Transfer and Accumulation System.
[3] Operational Research in Europe.

PhD Schools

[PhDSS1] From 2nd to 8th July, 2017. S.I.D.R.A. (Italian Society of Teachers and Researchers in Automatic Control) PhD Summer School, organized by the Italian Control Systems Society (CSS), Bertinoro, Forlì-Cesena, Italy. Topics of the school:

- "Formal methods for the control of large-scale networked nonlinear systems with logic specifications", coordinated by professors Maria Domenica Di Benedetto and Giordano Pola (University of Aquila);
- "Port-Hamiltonian modelling and passivity-based control of physical systems. Theory and applications", coordinated by professors Alessandro Macchelli (University of Bologna) and Cristian Secchi (University of Modena and Reggio).

Certificates

[AP1] June 6th, 2018. Certificate of participation and passing the final test of the workshop entitled "**Deep Learning for Computer Vision**", held by Prof. Luigi Troiano together with NVIDIA Deep Learning Institute (DLI), at the University of Sannio, Benevento, Italy.

[AP2] October 6th, 2017. Certificate of participation and passing the final test of the summer school "**SIDRA 2017 Ph.D. Summer School**", 4 ECTS, held by S.I.D.R.A., Bertinoro, Forlì-Cesena, Italy.

[AP3] July 5th, 2017. Certificate of participation and passing the final test of the training course entitled "**General training for workers on safety at work**", held by eng. Giosuè Di Franco (Head of the University Prevention and Protection Service), at the University of Sannio, Benevento, Italy.

[AP4] June 26th, 2017. Certificate of attendance at the seminar entitled "**Power system stability and synchronization: application to the lossy power grid system**", held by Prof. Navdeep M. Singh (Veermata Jijabai Technological Institute, Mumbai, India), at the University of Sannio, Benevento, Italy.

[AP5] June 26th, 2017. Certificate of attendance at the seminar entitled "**Control of Underactuated Mechanical Systems**", held by Prof. Sushama Wagh (Veermata Jijabai Technological Institute, Mumbai, India), at the University of Sannio, Benevento, Italy.

[AP6] April 29th, 2017. **Aircraft Pilot's Licence** issued in compliance with the Remote Piloting Media Vehicles Regulation, class VL/Mc, Aeroclub of Benevento Gen. Nicola Collarile, Benevento, Italy.

[AP7] February 21st, 2017. Certificate of participation in the workshop entitled "**Swarm Intelligence Methods and Optimization Problems in Big Data Analytics**", held by Prof. Soumya Mohanty (University of Texas Rio Grande Valley, Rio Grande City, USA), at the University of Sannio, Benevento, Italy.

[AP8] July 28th, 2016. Certificate of completion of the course entitled "**Vision with Precision: Vision Guided Robotics & Drone Applications**", held by IEEE Spectrum Tech Insider.

[AP9] March 17th, 2016. Certificate of participation in the workshop entitled "**Training STM32L4, Cortex-M4 Ultra-low power di ST**", held by STMicroelectronics, Arzano, Naples, Italy.

[AP10] March 11st, 2017. **Class medical certificate LAPL** (Light Aircraft Pilot's Licence) for the VLOS (Visual Line Of Sight) systems.

Invited talks

[R1] April 16th, 2016. "**Advanced drone applications: opportunities and problems**", Make & Share event, held by the Tech Coffee association, Benevento, Italy.

Research activity

[RA1] **Flight control of Unmanned Aerial Vehicle**

Recently some activities dealing with Unmanned Aerial Vehicles (UAVs), in particular multi-rotors drones, [J1] , [EB1] , [C1] , [C3] and [C4] have been carried out. Software-in-the-loop (SIL) simulation has been investigated as an effective tool for analyzing the behavior of the closed loop control [EB1] and for helping in the design of control strategies [C1] .

Related projects

CrazyS. CrazyS is an extension of the ROS package RotorS, aimed to modeling, developing and integrating the Crazyflie 2.0. nano-quadcopter in the physics based simulation environment Gazebo. Such simulation platform allows to understand quickly the behavior of the flight control system by comparing and evaluating different indoor and outdoor scenarios, with a details level quite close to reality. The proposed extension, running on Kinetic Kame ROS version but fully compatible with the Indigo Igloo one, expands the RotorS capabilities by considering the Crazyflie 2.0 physical model, its flight control system and the Crazyflie's on-board IMU, as well. The code has been released as open-source (https://github.com/gsilano/CrazyS) and at the same time a pull request was opened on RotorS repository with the aim to share the result with other researchers who already use such tools and would like to use the platform [EB1] , [C3] .

MAT-Fly. MAT-Fly is a numerical simulation platform for multi-rotors aircraft characterized by the ease of use and control development. The platform is based on MATLAB and the MathWorks Virtual Reality (VR) Toolbox that work together to simulate the behavior of a drone in a 3D environment while tracking a car that moves along a non trivial path. The VR toolbox has been chosen due to the familiarity that students have with MATLAB and because it allows to move the attention to the classifier, the tracker, the reference generator and the trajectory tracking control thanks to its simple structure. The overall architecture is quite modular so that each block can be easily replaced with others by simplifying the development phase and by allowing to add even more functionalities. The code is released under Apache license and made available at the link https://github.com/gsilano/MAT-Fly, thus making it available for scientific and educational activities [J1] , [C4] .

BebopS. The repository contains the developed ROS code for the Industrial Challenge of the 26th Mediterranean Conference on Control and Automation (MED'18) [A1] . The code aimed to simulate the dynamics of the Parrot Bebop 2 together with the flight controller (both high and low level) when external disturbances (e.g., wind gusts) acting on it. The control algorithms were designed in Matlab/Simulink and validated in Gazebo by using the MathWorks Robotics System Toolbox (RST). Therefore, the repository contains both ROS nodes and launch files needed to simulate the drone behavior when a tracking algorithm is run. Also, on GitHub the glue code written during the challenge to make able the control algorithm to exchange data on the ROS network is available. Such code was needed for sending commands to and receiving data from the aircraft and the Motion Capture (MoCap) systems Vicon. Furthermore, the repository contains the developing ROS code to connect the controller to the Parrot Sphinx simulator by including the Parrot Bebop onboard firmware in the loop. In this way, details like synchronization, timing issues, fixed-point computation, overflow, divisions-by-zero, can be isolated and investigated in detail. The code has been released as open-source under Apache license at the link https://github.com/gsilano/BebopS [C1] .

Minor contributions on various packages Minor contributions have been done to several open-source projects such as *bebop_autonomy*, *ros-travis-integration*, *RotorS* (wiki and pull request).

[RA2] **Mohamed Bin Zayed International Robotics Challenge (MBZIRC)**

The Mohamed Bin Zayed International Robotics Challenge (MBZIRC) is a biennial international robotics competition that provides an ambitious and technologically demanding set of challenges and is open to all teams from all countries. Also, the MBZIRC competition aims to inspire future robotics through innovative solutions and technological excellence. Within the competition, specifically the "challenge 2", autonomous aerial and ground robots have been carried out for navigation and manipulation tasks, in unstructured, outdoor and indoor environments. In particular, a team of UAVs (Unmanned Aerial Vehicles) and a UGV (Unmanned Ground Vehicle) collaborating to autonomously locate, pick, transport and assemble different types of brick shaped objects to build pre-defined structures, in an outdoor environment. Those challenge is motivated by construction automation and autonomous robot based 3D printing of large structures. It has been carried out during the visiting period spent at LAAS-CNRS in Toulouse [1] . Details on the team, activities and related publications carried out under the challenge are available at the link http://mbzirc2020team.laas.fr.

[RA3] **Control algorithms for autonomously managing the production and coordinating the farming operations**

Within the AFarCloud [EP2] European projects control techniques aimed to autonomously managing the production and coordinating the farming operations has been investigated (i.e., hierarchical planning algorithms). Specifically, algorithms to coordinate the operations within the farming autonomous activity, thus enhancing productivity and cost reduction, gradually shifting towards a high-level autonomy [C2] .

Conferences services

Conference contributions

[CAC1] June 20th, 2018. "**CrazyS: a software-in-the-loop platform for the Crazyflie 2.0 nano-quadcopter**", 2018 26th Mediterranean Conference on Control and Automation (MED), Zadar, Croatia, *Oral presentation*.

[CAC2] September 12nd, 2017. "**An educational simulation platform for Unmanned Aerial Vehicles aimed to detect and track moving objects**", Automatica.it 2017, national meeting held by S.I.D.R.A., Milan, Italy, *Interactive session*.

Publications

Referred book chapters

[EB1] **G. Silano** and L. Iannelli. "CrazyS: a software-in-the-loop simulation platform for the Crazyflie 2.0 nano-quadcopter". In Robot Operating System (ROS): The Complete Reference (Volume 4), Ed. by Koubaa, Anis, Springer International Publishing, 2020, pp. 81–115, ISBN: 978-3-030-20190-6, DOI 10.1007/978-3-030-20190-6_4, URL: https://doi.org/10.1007/978-3-030-20190-6_4.

Referred journals

[J1] **G. Silano**. “MAT-Fly: an educational platform for simulating Unmanned Aerial Vehicles aimed to detect and track moving objects”, 2019, pp. XX–XX, ISBN: XX, DOI 10.13140/RG.2.2.14878.43849, URL: https://arxiv.org/abs/1904.00378. *Working paper.*

Conferences

[C1] **G. Silano**, P. Oppido, L. Iannelli. “Software-in-the-loop simulation for improving flight control system design: a quadrotor case study”. 2019 IEEE International Conference on Systems, Man, and Cybernetics (SMC). Bari, Italy, October 2019, pp. 466–471, DOI 10.1109/SMC.2019.8914154, URL: http://dx.doi.org/10.1109/SMC.2019.8914154.

[C2] P. Daponte, L. De Vito, L. Glielmo, L. Iannelli, D. Liuzza, F. Picariello, **G. Silano**[4]. “A review on the use of drones for precision agriculture”. 2018 1st Workshop - Metrology for Agriculture and Foresty (MetroAgriFor). Ancona, Italy, October 2018, pp. 1–10, DOI 10.1088/1755-1315/275/1/012022, URL: http://dx.doi.org/10.1088/1755-1315/275/1/012022.

[C3] **G. Silano**, E. Aucone, L. Iannelli. “CrazyS: a software-in-the-loop platform for the Crazyflie 2.0 nano-quadcopter”. 2018 26th Mediterranean Conference on Control and Automation (MED). Zara, Croatia, June 2018, pp. 352–357, ISBN: 978-1-5386-7891-6, DOI 10.1109/MED.2018.8442759, URL: http://dx.doi.org/10.1109/MED.2018.8442759.

[C4] **G. Silano**, L. Iannelli. “An educational simulation platform for GPS-denied Unmanned Aerial Vehicles aimed to the detection and tracking of moving objects”. 2016 IEEE Conference on Control Application (CCA). Buenos Aires, Argentina, September 2016, pp. 1018–1023, ISBN: 978-1-5090-0755-4, DOI: 10.1109/CCA.2016.7587947, URL: http://dx.doi.org/10.1109/CCA.2016.7587947.

Research projects

[EP1] Participation within H2020-2018-2-RIA-two-stages – ECSEL, research project agreement 826610. Entitled “**COMP4DRONES, Software Components For Drones**” - Framework of key enabling technologies for safe and autonomous drones’ applications. July 2019 – June 2022. Project amount: 286 kEuros (only related to University of Sannio activities).

[EP2] Participation within H2020-EU.2017-2-RIA-two-stages – ECSEL, research project agreement 783221. Entitled “**AFarCloud, Aggregate Farming in the Cloud**” - Aggregate Farming in the Cloud software framework for runtime. September 2018 – August 2021. Project amount: 285 kEuros (only related to University of Sannio activities).

Scientific activity

Edited books reviewer[5]

Koubaa, Anis (Ed.), “Robot Operating System (ROS) - The Complete Reference (Volume 5)”, Springer International Publishing, 2020.

Koubaa, Anis (Ed.), “Robot Operating System (ROS) - The Complete Reference (Volume 4)”, Springer International Publishing, 2019.

International journals reviewer

[4]The authors are reported in alphabetic order.
[5]Link to the Publons profile: https://publons.com/researcher/1667164/giuseppe-silano/

IEEE Transactions on Control Systems Technology (2019).

Springer Journal of Intelligent & Robotic Systems (2019, 2020).

International conferences reviewer

IEEE American Control Conference, ACC (2018, 2019).

IEEE Conference on Control Technology and Applications, CCTA (2018).

IEEE Conference on Decision and Control, CDC (2019).

IEEE European Control Conference, ECC (2019).

Honors and awards

[A1] Finalist of the "**Aerial robotics control and perception challenge**", the Industrial Challenge of the 26th Mediterranean Conference on Control and Automation (MED'18), 19 – 22 June, Zadar, Croatia, 2018, ISSN: 1066–033X, DOI: 10.1109/MCS.2018.2888719, URL: http://dx.doi.org/10.1109/MCS.2018.2888719.

Teaching activity

Teaching assistance

[AD1] University of Sannio, teaching assistance for the course of "**Discrete Systems**", Master Degree course in Computer Engineering, Prof. Luigi Iannelli, A.Y. 2017/18 – 2019/20.

[AD2] University of Sannio, teaching assistance for the course of "**Automatic Control**", Bachelor Degree course in Electronic Engineering for Automation and Telecommunications and Computer Engineering, Prof. Luigi Iannelli, A.Y. 2016/17 – 2018/19.

[AD3] University of Sannio, teaching assistance for the course of "**Advanced Controls**", Master Degree course in Electronic Engineering for Automation and Telecommunications, Prof. Luigi Glielmo, A.Y. 2018/19.

Cosupervisor scientific activity

[AS1] Ria Sonecha, "Software- and hardware-in-the-loop methodologies aimed to test and validate the open-source simulation platform CrazyS", MIT Independent Activity Program, University of Sannio, 9 – 31 January 2020, project manager Prof. Luigi Iannelli, co-supervisor Mr. **Giuseppe Silano**.

[AS2] Benjamin Rodriguez, "Crazyflie 2.0 model and control for Gazebo 3D simulator", MIT Independent Activity Program, University of Sannio, 9 – 31 January 2018, project manager Prof. Luigi Glielmo, co-supervisors Mr. **Giuseppe Silano**, Prof. Luigi Iannelli and Dr. Davide Liuzza.

Bachelor degree thesis supervisor

[LT1] Emanuele Aucone, "Hovering control for a nanoquadricottero", Electronic Engineering for Automation and the Telecommunications, University of Sannio, 5th October 2017, advisor Prof. Luigi Iannelli, co-advisor Mr. **Giuseppe Silano**.

[LT2] Francesco Mariano D'Andrea, "Adaptive control of the vertical dynamics of a Drone", Electronic Engineering for Automation and the Telecommunications, University of Sannio, 5th October 2017, advisor Prof. Luigi Iannelli, co-advisor Mr. **Giuseppe Silano**.

[LT3] Olga Napolitano, "State estimation for a quadrotor", Electronic Engineering for Automation and the Telecommunications, University of Sannio, 5th October 2017, advisor Prof. Luigi Iannelli, co-advisor Mr. **Giuseppe Silano**.

[LT4] Susanna Maio, "Analysis of the vertical control of a quadrotor in the V-REP simulation environment", Electronic Engineering for Automation and the Telecommunications, University of Sannio, May 25th 2017, advisor Prof. Luigi Iannelli, co-advisor Mr. **Giuseppe Silano**.

[LT5] Andrea Mascia, "Study of the algorithm for position estimate of a micro U.A.V.", Computer Engineering, University of Sannio, October 27th 2016, advisor Prof. Luigi Iannelli, co-advisor Mr. **Giuseppe Silano**.

[LT6] Luca De Vincentis, "Experimental characterization of the flight control system of a micro U.A.V.", Electronic Engineering for Automation and the Telecommunications, University of Sannio, July 21st 2016, advisor Prof. Luigi Iannelli, co-advisor Mr. **Giuseppe Silano**.

References

Prof. Luigi Iannelli, Department of Engineering, University of Sannio, Piazza Roma, 21, 82100 Benevento, Italy, luigi.iannelli@unisannio.it.

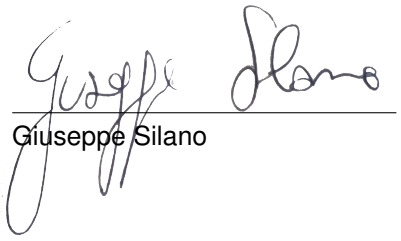
Prof. Antonio Franchi, Faculty of Electrical Engineering, Mathematics & Computer Science, University of Twente, Carré 3609, P.O. Box 217, 7500 AE Enschede, Netherlands, a.franchi@utwente.nl.

PhD. Davide Liuzza, ENEA (National Agency for new technologies, energy and sustainable economic development), Lungotevere Thaon di Revel, 76, 00196 Rome, Italy, davide.liuzza@enea.it.

Prof. Luigi Glielmo, Department of Engineering, University of Sannio, Piazza Roma, 21, 82100 Benevento, Italy glielmo@unisannio.it.

Mirabella Eclano (AV), JANUARY 8, 2020

Place and date



Giuseppe Silano