Andrea Coletta

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EDUCATION AND TRAINING

01/10/2013 – 01/07/2016
BACHELOR DEGREE - COMPUTER SCIENCE – La Sapienza, Roma (Italy)

01/10/2016 – 01/10/2018
MASTER DEGREE - COMPUTER SCIENCE – La Sapienza, Roma (Italy)

01/10/2018 – CURRENT
PH.D. STUDENT - COMPUTER SCIENCE – La Sapienza, Roma (Italy),

PROJECTS

Science for Peace and Security (2021-2024) - SeaSec: DroNets for Maritime Border and Port Security

Partitipant and Research Activities in the "Science for Peace and Security (2021-2024) - SeaSec: DroNets for Maritime Border and Port Security", P.I. Gaia Maselli.

01/04/2020 – CURRENT
Fairness, and the impact oftrading strategies and Machine Learning, on financial markets

Partitipant and Research Activities in the "Fairness, and the impact oftrading strategies and Machine Learning, on financial markets", P.I. Novella Bartolini.

01/01/2018 – 01/01/2019
Science for Peace and Security (2015-2018) - Hybrid Sensor Networksfor Emergency Critical Scenarios

Partitipant and Research Activities in the "Science for Peace and Security (2015-2018) - Hybrid Sensor Networksfor Emergency Critical Scenarios", P.I. Novella Bartolini.

HONOURS AND AWARDS

01/10/2020
Principal Investigator - Avvio Alla Ricerca – Avvio Alla Ricerca, Sapienza University of Rome, Italy.

Grant for "Autonomous Drones for Food Safety and Security in Developing Countries" Project.

ICDCS 2019 Travel Grant Award – IEEE

Summer School Student Grant - ComSoc 2019 Austin – IEEE ComSoc

01/01/2017
Students Fellowship – Sapienza

Borsa di collaborazione studenti

01/01/2017
Research Fellowship – Sapienza

Borsa di studio per attività di ricerca

CONFERENCES AND SEMINARS

01/09/2020 – 01/03/2021 – Sapienza
Assistant - Artificial intelligence for trading

01/09/2020 – 01/03/2021 – Sapienza
Assistant - Autonomous Networking

01/09/2018 – 01/12/2021 – Sapienza
Assistant - Fundamentals of Network Communication

WORK EXPERIENCE

01/03/2020 – 01/06/2020 – Roma, Italy
RESEARCH AND DEVELOPMENT (R&D) – MINERVA CHATBOT FOR COVID-19

01/09/2018 – 01/01/2019 – Roma, Italy
TUTOR – PRIVATE SCHOOL

Training and seminars on Microsoft Office 36

DIGITAL SKILLS

Microsoft Word | Microsoft Office | Python | Java | Machine Learning | Reinforcement Learning | Discrete Optimization | Multi agent-System

LANGUAGE SKILLS

Mother tongue(s): ITALIAN **Other language(s):**
Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C1	C1	C2

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

OTHER EXPERIENCES

Participant - ICAIF 2020 - 2020 ACM International Conference on AI in Finance

Participant - ACM Mobihoc 2020: International Symposium on Theory, Algorithmic Foundations, and Protocol Design for Mobile Networks and Mobile Computing

Participant - ACM MobiSys 2020: The 18th ACM International Conference on Mobile Systems, Applications, and Services

Participant - ACDL 2020 - 3rd Advanced Course on Data Science & Machine Learning

Participant - #EUnitedvsVirus - The pan European hackathon 2020

Participant - IEEE International Conference on Pervasive Computing and Communications (PERCOM 20')

Participant - "The Ethics and Law of AI" Conference

Participant - IEEE RAS Summer School on Multi-Robot Systems

Participant - IEEE ComSoc Summer School

Participant - IEEE ICDCS 2019: The 39th IEEE International Conference on Distributed Computing Systems

Finalist - Hackathon, Open Innovation ITRA Hackathon EY Ernst & Young

TECHNICAL SKILLS

Programming Languages

Python, Java, C++, Bash

Experience in Prototyping and Experiments with Drones

I have experience with ROS (Robot Operating System) and its integration in Gazebo simulator. I have simulated real scenarios using high-end servers with Gazebo simulator, and I validated their results in multi-robot-systems outdoor experiments.

During the 2019 IEEE RAS Summer School, I designed two different algorithms for multiple drones, I tested them during computer practicals in a Gazebo simulator, and I finally verified their functionality during the real-world deployment of a fleet of cooperating UAVs (composed by a fleet of 4 autonomous UAVs).

I also studied how to integrate and exploit multi-hop wireless communication with multiple drones in rescue operations. I worked with raspberry PIs, which provide wireless communication to users. The results of this work were published on MobiHoc Workshop 2020 - "Demo: DANGER - a Drones Aided Network for Guiding Emergency and Rescue operations".

Publications

2021 **MAD for FANETs: Movement Assisted Deliveryfor Flying Ad-hoc Networks**, N. Bartolini, A.Coletta, A.Gennaro, G. Maselli, M. Prata.
IEEE 41th International Conference on Distributed Computing Systems (ICDCS 2021)

2020 **Environment-driven Communication in Battery-free Smart Buildings**, M.Piva, A. Coletta, G. Maselli, J. A. Stankovic.
ACM Transactions on Internet of Things - **doi: https://doi.org/10.1145/3448739**

2020 **GenPath - A Genetic Multi-Round Path Planning Algorithm for Aerial Vehicles**, N. Bartolini, A.Coletta, G. Maselli, M. Piva, D. Silvestri. IEEE INFOCOM 2021 WORKSHOPS - **to appear**

2020 **Optimal deployment in crowd sensing for plant disease diagnosis in developing countries**, A.Coletta, N. Bartolini, G. Maselli, A. Kehs, P. McCloskey, D. P. Hughes.
IEEE Internet of Things Journal (2020) - **doi: 10.1109/JIOT.2020.3002332**

2020 **A Multi-Trip Task Assignment for Early Target Inspection in Squads of Aerial Drones**, N. Bartolini, A. Coletta, G. Maselli, A. Khalifeh.
IEEE Transactions on Mobile Computing (2020) - **doi: 10.1109/TMC.2020.2994529**

2020 **DRUBER: A Trustable Decentralized Drone-based Delivery System**, N. Bartolini, A. Coletta, G. Maselli, M. Piva.
DroNet '20 - 6th ACM Workshop on Micro Aerial Vehicle Networks, Systems, and Applications for Civilian Use (MobiSys 2020) - **doi: 10.1145/3396864.3399706**

2020 **On Optimal Crowd-Sensing Task Management in Developing Countries**, A. Coletta, N. Bartolini, G. Maselli, D. P. Hughes.
IEEE Pervasive Computing and Communications Workshops (PerCom 2020) - **10.1109/PerComWorkshops48775.2020.9156081**

2020 **Demo: DANGER - a Drones Aided Network for Guiding Emergency and Rescue operations**, A. Coletta, G. Maselli, M. Piva, D. Silvestri.
The Twenty-first ACM International Symposium on Theory, Algorithmic Foundations, and Protocol Design for Mobile Networks and Mobile Computing (Mobihoc '20) - **doi: 10.1145/3397166.3415276**

2019 **On task assignment for early target inspection in squads of aerial drones**, N. Bartolini, A. Coletta, G. Maselli.
IEEE 39th International Conference on Distributed Computing Systems (ICDCS 2019) **doi: 10.1109/ICDCS.2019.00209**

2019 **MIMOSE: Multimodal Interaction for Music Orchestration Sheet Editors**, A. Coletta, M. De Marsico, E. Panizzi, B. Prenkay, D. Silvestri.
Multimedia Tools and Applications, Jun 2019, 1573-7721 - **doi: 10.1007/s11042-019-07838-0**