PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

PhD Student: Giovanni Ercolano

XXXIII Cycle

Training and Research Activities Report – Third Year

Tutor: Silvia Rossi

1. Information

I, the undersigned, Giovanni Ercolano, Ph.D. student in Information Technology and Electrical Engineering (ITEE) of the XXXIII cycle, have a Master's degree with honors in Computer Science at the University of Naples Federico II. My master thesis is titled "Recognition of Activity of Daily Living for assistive robotics". My tutor is prof. Silvia Rossi, assistant professor and Scientific co-chief of the PRISCA lab at the University of Naples Federico II. She is currently Coordinator and Principal Investigator of the National Project UPA4SAR "User Profiling and Adaptation for Socially Assistive Robotics".

2. Study and Training activities

During the third year I followed the following courses, seminars and external courses:

Courses:

- Scientific programming and visualization with Python, prof. Alessio Botta
- Matlab fundamentals, Agostino De Marco, Stefano Marrone
- Virtualization Technologies and their Applications, dr. Luigi De Simone
- Innovation management, entrepreneurship and intellectual property
- Design and Implementation of Augmented Reality Software System
- Digital Forensics' methods, practices and tools, dr. Giovanni Cozzolino

Seminars:

- Cybersecurity and fuzzing for robots, blockchain and more, dr. Antonio Ken Iannillo – dr. Roberto Natella
- Numerical Methods for modelling, simulation and control for soft robots or robots in interaction with deformable environment, dr. Christian Duriez – prof. Fanny Ficuciello
- Elettromagnetismo e salute, prof. Rita Massa
- Computational Bioligy: Large Scale Data Analysis to understand the molecular bases of human diseases, prof. Michele Ceccarelli
- How to get published with IEEE, Eszter Lukács
- Exploring Autonomy in Robotic Flexible Endoscopy, prof. Pietro Valdastri – prof. Fanny Ficuciello
- Access the eLearning library on IEEE Xplore, Eszter Lukacs
- Designing Security Solutions for Edge, Cloud, and IoT, IEEE course
- Overview of Edge Computing, IEEE course
- Application Scenarios of Edge Computing, IEEE course
- Network Systems, Kuramato Oscillators, and Synchronous Power Flow, prof. Francesco Bullo – Phd Marco Coraggio
- Image, Texts, Emojis & Geodata in a Sentiment Analysis Pipeline, dr. Serena Pelosi – University of Salerno
- At Nexus of Big Data, Machine Intelligence, and Human Cognition, prof. George S. Djorgovski
- Data Driven Transformation in WINDTRE through Manager voice, Marcello Savarese, Erica Bertone, Amida Kudasheva
- From Photometric Redshifts Improved Weather Forecasts an interdisciplinary view on machine learning, Kai Polsterer
- Cybercrime and electronic evidence, Eng. Matteo Lucchetti

- AI Legal - Artificial Intelligence for notary's sector – a case study, Salvatore Palange
- Machine Learning: causality lost in translation, Edwin A. Valentijn
- Approach to Graph Machine Learning, Miroslav Cepek

3. Research activity

My research activity during the third year is addressed to the conclusion of the PRIN 2015 research project UPA4SAR "User Profiling and Adaptation for Socially Assistive Robotics". The main goal is the development and deployment of a well-accepted Active and Assisting Living (AAL) system based on a mobile social robot capable of deliver assistive services considering the profile and needs of home patients affected by Alzheimer's disease. The robot must improve the acceptability through the adaptation of its social interaction to the patient based on personal factors and the cognitive state of the user.

We developed the robot assistive services that are managed by the Workflow Manager created by the ICAR-CNR, one of the UPA4SAR project collaborators. We used a new robot for the experimentations called Sanbot Elf, released by Qihan, a social multi-services robot. This robot has an affordable hardware cost and we saw that is more accepted than other robots. The four main challenging aspects were reached during this year for the experiments thanks to this robot: real world environment test and production, acceptability, personalization and adaptation, cost-effectiveness. It was easier to access and use all the robot's components using its Android SDK, since the robot is controlled by an Android tablet. We implemented many robot behaviours modelled as independent, self-contained, self-scope, and self-responsibility microservices that compose the different system components. It is possible to choose a set of custom services to personalize the robot according to the needs and preferences of the user. The intent was to follow a Robot as a Service (RaaS) approach breaking complex behaviours in primitive functions. The robotic system is formed not only by a Sanbot Elf robot, but also by a Polar Android M-600 smartwatch to analyse the heartrate, the human pose and to detect the room where the patient is placed, the iBeacons to locate the smartwatch and the robot into the rooms, and an Android smartphone to notify some important information to the caregiver. An Intel NUC was used as robot server to run the Workflow Manager, a System Controller and the System Components of the robotic system. The System Controller and Components was implemented using "Node.js" while the communications between the Workflow Manager and the System Components with the System Controller was handled by the "Socket.io" library with an event-driven architecture. The message format was defined as JSON. A Control Interface was used for testing the System Components to check all the provided services. Three are the main group of Services developed into the robotic system: the Monitoring Services with activity recognition, pose recognition, emotion and disengagement recognition; the Navigation Services to approach the patient; the Interaction Services to provide audio/video entertainments and other multimodal human-robot interactions. Finally, we tested in laboratory the Navigation Services, essential for the interaction of the companion robot with the patient with encouraging results, feasible execution times to deployment in real and uncontrolled environment.

During the third year we focused on writing three journal articles about:

- the research done in collaboration with Hallam Sheffield University on the automatic recognition of gestures produced by autistic children mimicking the gestures of a social robot.
- the development of an algorithm for the recognition of activities of daily living (ADLs).

- the final results of the experimentation of the UPA4SAR project with the analysis of the recorded data.

4. Products

Publications:

1. Ercolano, G., Rossi, S. Combining CNN and LSTM for Activity of Daily Living Recognition with a 3D Matrix Skeleton Representation. Intelligent Service Robotics – Springer
2. Rossi, S., Di Napoli, C., Ercolano, G. Personalized Home-care Support for the Elderly Learn by Experience with a Social Robot at Home. User Modeling and User-Adapted Interaction – Springer
3. (in submission) Ercolano, G., Rossi, S., Conti, D., Di Nuovo, A., Gross Motor Imitation skills in Autism Spectrum Disorder with Intellectual Disability: gesture recognition using 2D camera. Applied Soft Computing – Springer

5. Conferences and Seminars

I attended the following conferences:

- The 29th IEEE International Conference on Robot & Human Interactive Communication (IEEE RO-MAN 2020), virtual conference hosted on underline.io

6. Tutorship

I have collaborated in the organization of the 29th IEEE International Conference on Robot & Human Interactive Communication (IEEE RO-MAN 2020), virtual conference hosted on underline.io, as "Web Chair".

I started tutoring for "Analisi I".

	Credits year 1								Credits year 2								Credits year 3									
		1	2	3	4	5	6			1	2	3	4	5	6			1	2	3	4	5	6+7			
	Estimated	bimonth	bimonth	bimonth	bimonth	bimonth	bimonth	Summary	Estimated	bimonth	bimonth	bimonth	bimonth	bimonth	bimonth	Summary	Estimated	bimonth	bimonth	bimonth	bimonth	bimonth	bimonth	Summary	Total	Check
Modules	18			5,4	6	3		14	19	1,2	0	0	0	0	1,9	3,1		0	5	13	0	3	3	24	42	30-70
Seminars	10	0	1,2	1,3	3	1,2	1	7,7	5	0	0,6	0	0,6	0,2	0,2	1,6		0,4	0,8	1,5	0	0,4	2,5	5,6	15	10-30
Research	40	10	8,8	7	7	8,8	9	51	40	10	8	14	4	8	6	50		7	4	4	7	7	10	39	140	80-140
	68	10	10	14	16	13	10	73	64	11	8,6	14	4,6	8,2	8,1	55	0	7,4	9,8	19	7	10	16	69	196	180

CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Module Title COMPILERS AND CODE OPTIMIZATION

Lecturer DR. EDOARDO FUSELLA – PROF. ALESSANDRO CILARDO

Dates APRIL 2018 - MAY 2018

Student **ERCOLANO GIOVANNI**

Cycle **XXXIII**

Credits earned 2.4

Lecturer signature

E. Fusella

Above information are provided to attest that the student attended lessons relevant to the module held in the indicated period.

Earned Credits depend on the student performance in the module activities and are provided and certified by the lecturer. The amount of earned credits is usually limited to the number or credits reported in the List of Modules relevant to the ITEE PhD. If the case, the lecturer is kindly requested to shortly motivate why the earned credits exceeds this limit.

CF '18

ACM International Conference on Computing Frontiers

Ischia, Italy, May 08-10, 2018

May 08th 2018

Number 4

PARTICIPATION CERTIFICATE

On behalf of the Organizing Committee of the 2018 ACM International Conference on Computing Frontiers (CF'18) held in Ischia, Italy, I certify that Giovanni Ercolano attended the Conference from May 08 to May 10 2018.

Yours faithfully,

Claudia Di Napoli

On behalf of the CF'18 Organizing Committee

CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Module Title **TECNOLOGIE DIGITALI E SCIENZE UMANE**

Lecturer PROF. GUGLIELMO TAMBURRINI

Dates 11/05/2018

Student **ERCOLANO GIOVANNI**

Cycle **XXXIII**

Credits earned **3**

Lecturer signature

Above information are provided to attest that the student attended lessons relevant to the module held in the indicated period.

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CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Module Title SISTEMI MULTIAGENTE

Lecturer PROF. SILVIA ROSSI

Dates 09/07/2018

Student **GIOVANNI ERCOLANO**

Cycle **XXXIII**

Credits earned 6.0

Lecturer signature

Above information are provided to attest that the student attended lessons relevant to the module held in the indicated period.

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UNIVERSITÀ DEGLI STUDI
DI GENOVA

IRDTA
BRUSSELS - LONDON

DeepLearn 2018

International Summer School on Deep Learning

July 23-27, 2018

Genova, Italy

THIS IS TO CERTIFY THAT:

Giovanni Ercolano has successfully participated in DeepLearn 2018, which consisted of 46 hours of lectures.

Genova, July 27, 2018

Francesco Masulli
Professor
University of Genova

Carlos Martín-Vide
Professor
Rovira i Virgili University

Certificate of Attendance

This is to certify that

GIOVANNI ERCOLANO

For participation and oral presentation of his/her work during
The 10th International Conference on Social Robotics (ICSR 2018)
November 28-30, 2018
Huiquan Dynasty Hotel, Qingdao, China

Shuzhi Sam Ge and John-John Cabibihan
General Chairs
ICSR 2018

CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Module Title COGNITIVE ROBOTICS & ARTIFICIAL INTELLIGENCE

Lecturer Prof.ssa MARIA CARLA STAFFA

Dates OCTOBER 2018

Student GIOVANNI ERCOLANO

Cycle XXXIII

Credits earned 3.0

Lecturer signature

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CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Seminar Title LOGIC-BASED LANGUAGES AND SYSTEMS FOR BIG DATA APPLICATIONS

Lecturer CARLO ZANIOLO

Organizer ANTONIO PICARIELLO

Date 13/03/18 - 15/03/18

Student GIOVANNI ERCOLANO

Cycle XXXIII

Credits earned 0.8

Organizer or Lecturer signature

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CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Seminar Title THE AGE OF HUMAN-ROBOT COLLABORATION

Lecturer OUSSAMA KHATIB

Organizer BRUNO SICILIANO

Date 17/04/2018

Student ERCOLANO GIOVANNI

Cycle XXXIII

Credits earned 0.4

Organizer or Lecturer signature

Above information are provided to attest that the student attended the seminar held in the indicated date.

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CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Seminar Title LECTURE ON "TAILORING WAVES AT THE EXTREME WITH METAMATERIALS"

Lecturer PROF. NADER ENGHETA

Organizer PROF. AMEDEO CAPOZZOLI

Date 31/05/2018

Student ERCOLANO GIOVANNI

Cycle XXXIII

Credits earned 0,5

Organizer or Lecturer signature

Above information are provided to attest that the student attended the seminar held in the indicated date.

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CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Seminar Title LECTURE ON "NEAR-ZERO-INDEX PHOTONICS"

Lecturer PROF. NADER ENGHETA

Organizer PROF. AMEDEO CAPOZZOLI

Date 01/06/2018

Student ERCOLANO GIOVANNI

Cycle XXXIII

Credits earned 0.5

Organizer or Lecturer signature

Above information are provided to attest that the student attended the seminar held in the indicated date.

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CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Seminar Title MALATTIE PROFESSIONALI DA CAMPI ELETTROMAGNETICI TRA SCIENZA E GIUSTIZIA

Lecturer DOTT. ALESSANDRO POLICHETTI

Organizer PROF.SSA RITA MASSA

Date 18/09/2018

Student GIOVANNI ERCOLANO

Cycle XXXIII

Credits earned 0,1

Organizer or Lecturer signature

Above information are provided to attest that the student attended the seminar held in the indicated date.

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CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Seminar Title USO DEL CELLULARE E TUMORI CEREBRALI LE EVIDENZE EPIDEMIOLOGICHE

Lecturer DOTT.SSA SUSANNA LAGORIO

Organizer PROF.SSA RITA MASSA

Date 18/09/2018

Student GIOVANNI ERCOLANO

Cycle XXXIII

Credits earned 0,4

Organizer or Lecturer signature

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CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Seminar Title "WEAK" METHODS IN COMPUTATIONAL ELECTROMAGNETICS

Lecturer PROF. SALVATORE ALFONZETTI

Organizer PROF. RAFFAELE MARTONE

Date 17/10/18

Student GIOVANNI ERCOLANO

Cycle ~~XXXIII~~

Credits earned 0,4

signature

Organizer or Lecturer

S. Alfonzetti

Above information are provided to attest that the student attended the seminar held in the indicated date.

Earned Credits depend on the student performance in the seminar activities and are provided and certified by the organizer or the lecturer. The standard number of earned credits is usually of 0.2 credits per seminar hour and are credited providing the student actively participated to the seminar. Extra activities subsequently performed by the student and related to the seminar content can lead to

CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Seminar Title TYPES AND LEVELS OF COMPUTATIONAL EXPLANATIONS IN AI: A DUAL PROCESS PROPOSAL

Lecturer DOTT. ANTONIO LIETO

Organizer PROF. GUGLIELMO TAMBURRINI

Date 14/11/2018

Student GIOVANNI ERCOLANO

Cycle XXXIII

Credits earned 0,4

Organizer or Lecturer

signature

Above information are provided to attest that the student attended the seminar held in the indicated date.

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CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Seminar Title PARALLEL AND DISTRIBUTED COMPUTING WITH MATLAB

Lecturer ENG. STEFANO MARRONE

Organizer PROF. ALESSANDRA D'ALESSIO

Date 21/11/2018

Student GIOVANNI ERCOLANO

Cycle XXXIII

Credits earned 0,4

Organizer or Lecturer signature

Above information are provided to attest that the student attended the seminar held in the indicated date.

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CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Seminar Title FILTRAGGIO DELL'AZIMUTH AMBIGUITY IN IMMAGINI SAR

Lecturer ING. GERARDO DI MARTINO

Organizer ~~07/12/2018~~ PROF. ANTONIO IODICE

Date 07/12/2018

Student **GIOVANNI ERCOLANO**

Cycle **XXXIII**

Credits earned 0,2

signature

Organizer or Lecturer

Above information are provided to attest that the student attended the seminar held in the indicated date.

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CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Module Title **Data Science and Optimization**

Lecturer **Prof. Manlio Gaudioso - Prof.ssa Laura Palagi - Prof.ssa Enza Messina - dott. Claudio Sterle**

Dates 5/2/19 - 6/2/19 - 7/2/19

Student **GIOVANNI ERCOLANO**

Cycle **XXXIII**

Credits earned 1.2

Lecturer signature

Above information are provided to attest that the student attended lessons relevant to the module held in the indicated period.

Earned Credits depend on the student performance in the module activities and are provided and certified by the lecturer. The amount of earned credits is usually limited to the number or credits reported in the List of Modules relevant to the ITEE PhD. If the case, the lecturer is kindly requested to shortly motivate why the earned credits exceeds this limit.

CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Seminar Title MATLAB ONRAMP AND SISOTOOL

Lecturer ING. FRANCESCO ORFICE

Organizer PROF. ANTONIO PICARIELLO

Date 23/03/2019

Student GIOVANNI ERCOLANO

Cycle XXXIII

Credits earned 0.6

Organizer or Lecturer signature

Francesco Orfice

Above information are provided to attest that the student attended the seminar held in the indicated date.

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CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Seminar Title APPLYING SEMI-SUPERVISED LEARNING TO APP STORE ANALYSIS

Lecturer DANIEL RODRIGUEZ G

Organizer ROBERTO PIETRANTUONO

Date 12-07-2019 11:30 - 12:30

Student GIOVANNI ERCOLANO

Cycle XXXIII

Credits earned 0.2

Organizer or Lecturer signature

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CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Seminar Title Quasar_NTU ~~Kasp~~ collaboration talk.

Lecturer AMIR POURABDOLLAH

Organizer PROF. GIOVANNI ACAMPORA

Date 11/07/2019

Student GIOVANNI ERCOLANO

Cycle XXXIII

Credits earned 0.4

Organizer or Lecturer signature

Amir

Above information are provided to attest that the student attended the seminar held in the indicated date.

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CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Seminar Title INNOVATION IN MEDICAL ROBOTICS AND THE HUMAN-CENTRED PARADIGM

Lecturer DR. GEORGE MYLONAS

Organizer DR. FANNY FICUCIELLO

Date 05/09/19

Student GIOVANNI ERCOLANO

Cycle XXXIII

Credits earned 0.2

Organizer or Lecturer signature

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CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Seminar Title MARKED POINT PROCESSES FOR OBJECT DETECTION AND TRACKING IN HIGH RESOLUTION IMAGES: APPLICATION TO REMOTE SENSING DATA

Lecturer PROF. JOSIANE ZERUBIA

Organizer PROF. GIUSEPPE SCARPA

Date 02/12/2013

Student ERCOLANO GIOVANNI

Cycle XXIII

Credits earned 0.2

Organizer or Lecturer signature

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CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Module Title INTELLIGENZA ARTIFICIALE ED ETICA

Lecturer PROF. ROBERTO PREVOTE

Dates 06/12/2019

Student ERCOLANO GIOVANNI

Cycle XXXIII

Credits earned 1.5

Lecturer signature

Above information are provided to attest that the student attended lessons relevant to the module held in the indicated period.

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CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Module Title FUNDAMENTALS OF DEEP LEARNING FOR COMPUTER VISION

Lecturer LUIGI TROIANO

Dates 16/12/2019

Student ERCOLANO GIOVANNI

Cycle XXXIII

Credits earned 0.4

Lecturer signature

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NVIDIA DEEP LEARNING INSTITUTE
CERTIFICATE OF COMPETENCY

This certificate is awarded to
GIOVANNI ERCOLANO

for demonstrating competence in the completion of
FUNDAMENTALS OF DEEP LEARNING FOR COMPUTER VISION

Will Ramey
Senior Director, Developer Programs, NVIDIA

2019
Year issued

NVIDIA DEEP LEARNING INSTITUTE

CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Seminar Title CYBERSECURITY AND FUZZING FOR ROBOTS, BLOCKCHAIN, AND MORE

Lecturer Dr. ANTONIO KEN IANNILLO

Organizer Dr. ROBERTO NATELLA

Date 13/01/2020

Student GIOVANNI ERCOLANO

Cycle XXXIII

Credits earned 0.2

Organizer or Lecturer signature

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CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Seminar Title NUMERICAL METHODS FOR MODELING, SIMULATION AND CONTROL FOR SOFT ROBOTS OR ROBOTS IN INTERACTION WITH DEFORMABLE ENVIRONMENT

Lecturer DR. CHRISTIAN DURIEZ

Organizer PROF. FANNY FICUCIELLO

Date 14/01/2020

Student GIOVANNI ERCOLANO

Cycle XXXIII

Credits earned 0.2

Organizer or Lecturer signature

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DICHIARAZIONE SOSTITUTIVA DI CERTIFICAZIONE
(Art. 46 D.P.R. 28 dicembre 2000, n. 445)
PER PARTECIPAZIONE A SEMINARIO

Il sottoscritto GIOVANNI ERCOLANO, nato a SORRENTO Prov. NA il 31/05/1987 residente in SORRENTO Prov. NA via CALA n°4/B consapevole delle sanzioni penali, nel caso di dichiarazioni non veritiere e falsità negli atti, richiamate dall'art. 76 D.P.R. 445 del 28/12/2000

Dichiara

di essere iscritto al XXXIII ciclo del dottorato in INFORMATION TECHNOLOGY AND ELECTRICAL ENGINEERING presso il DIPARTIMENTO DI INGEGNERIA ELETTRICA E TECNOLOGIE DELL'INFORMAZIONE dell'UNIVERSITA' DEGLI STUDI NAPOLI "FEDERICO II" e, nell'ambito del proprio corso di dottorato, di aver partecipato al seguente seminario:

Titolo: Elettromagnetismo e salute

Relatore: prof. Rita Massa

Organizzatore: prof. Rita Massa

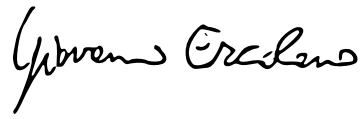
Data: 09/04/2020

tenutosi in modalità telematica sulla piattaforma Microsoft Teams
ed avente durata di 1 ore, per un totale di 0.2 CFU.

Dichiara altresì di non aver potuto produrre apposita attestazione di partecipazione perché questa non veniva fornita dalla piattaforma.

In Fede,

IL DICHIARANTE



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Titolo: Computational Biology: Large Scale Data Analysis to understand the molecular bases of human diseases

Relatore: prof. Michele Ceccarelli

Organizzatore: prof. Michele Ceccarelli

Data: 09/04/2020

tenutosi in modalità telematica sulla piattaforma Microsoft Teams
ed avente durata di 1 ore, per un totale di 0.2 CFU.

Dichiara altresì di non aver potuto produrre apposita attestazione di partecipazione perché questa non veniva fornita dalla piattaforma.

In Fede,

IL DICHIARANTE

IEEE
Advancing Technology for Humanity

Certificate of Completion

This is to certify that

Giovanni Ercolano

has successfully completed training for:

How to Get Published with IEEE

IEEE Client Services Team
www.ieee.org

Date: 04/20/2020
Time: 10:00
Duration: 2 hours

Certificate of Completion

This is to certify that

Giovanni Ercolano

has attended the IEEE Xplore Webinar

"Access the eLearning Library"

4 May 2020 11:00-12:00

Eszter Lukacs – IEEE Client Services Manager

CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Seminar Title **Exploring Autonomy in Robotic Flexible Endoscopy**

Lecturer **Prof. Pietro Valdastri**

Organizer **Prof. Fanny Ficuciello**

Date **12/06/2020**

Student **GIOVANNI ERCOLANO**

Cycle **XXXIII**

Credits earned **0.4**

Organizer or Lecturer signature

Above information are provided to attest that the student attended the seminar held in the indicated date. Earned Credits depend on the student performance in the seminar activities and are provided and certified by the organizer or the lecturer. The standard number of earned credits is usually of 0.2 credits per seminar hour and are credited providing the student actively participated to the seminar. Extra activities subsequently performed by the student and related to the seminar content can lead to extra credits up to 1 credit per seminar hour. If the case, the organizer is kindly requested to shortly motivate the number of extra earned credits.

Certificate of Completion

This is to certify that

Giovanni Ercolano

has completed

Designing Security Solutions for Edge, Cloud, and IoT

24 May 2020

0.3 Continuing Education Units, 3 Professional Development Hours

Stephen Phillips, Vice President, IEEE Educational Activities

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC. FOUNDED NEW YORK 1884

CEU
IEEE CONTINUING EDUCATION

New York State Sponsor Number 117
Florida Provider Number 0003849

Certificate of Completion

This is to certify that

Giovanni Ercolano

has completed

Overview of Edge Computing

24 May 2020

0.3 Continuing Education Units, 3 Professional Development Hours

Stephen Phillips, Vice President, IEEE Educational Activities

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.
FOUNDED
NEW YORK
1884

CEU
IEEE CONTINUING EDUCATION

New York State Sponsor Number 117
Florida Provider Number 0003849

Certificate of Completion

This is to certify that

Giovanni Ercolano

has completed

Application Scenarios of Edge Computing

24 May 2020

0.3 Continuing Education Units, 3 Professional Development Hours

Stephen Phillips, Vice President, IEEE Educational Activities

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC. FOUNDED NEW YORK 1884

CEU
IEEE CONTINUING EDUCATION

New York State Sponsor Number 117
Florida Provider Number 0003849

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Dichiara

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Titolo: Picariello Lectures on Data Science IV: Image, Texts, Emojis & Geodata in a Sentiment Analysis Pipeline

Relatore: dr. Serena Pelosi – University of Salerno

Data: 25/11/2020

tenutosi in modalità telematica sulla piattaforma Microsoft Teams
ed avente durata di 1,5 ore, per un totale di 0,3 CFU.

Dichiara altresì di non aver potuto produrre apposita attestazione di partecipazione perché questa non veniva fornita dalla piattaforma.

In Fede,

IL DICHIARANTE

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Titolo: Picariello Lectures on Data Science V: At Nexus of Big Data, Machine Intelligence, and Human Cognition

Relatore: prof. George S. Djorgovski

Data: 02/12/2020

tenutosi in modalità telematica sulla piattaforma Microsoft Teams
ed avente durata di 1 ore, per un totale di 0,2 CFU.

Dichiara altresì di non aver potuto produrre apposita attestazione di partecipazione perché questa non veniva fornita dalla piattaforma.

In Fede,

IL DICHIARANTE

CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Seminar Title **Network Systems, Kuramato Oscillators, and Synchronous Power Flow**

Lecturer **Prof. Francesco Bullo**

Organizer **Phd Marco Coraggio**

Date **03/12/2020**

Student **GIOVANNI ERCOLANO**

Cycle **XXXIII**

Credits earned **0.3**

Organizer or Lecturer signature

Above information are provided to attest that the student attended the seminar held in the indicated date.

Earned Credits depend on the student performance in the seminar activities and are provided and certified by the organizer or the lecturer. The standard number of earned credits is usually of 0.2 credits per seminar hour and are credited providing the student actively participated to the seminar. Extra activities subsequently performed by the student and related to the seminar content can lead to extra credits up to 1 credit per seminar hour. If the case, the organizer is kindly requested to shortly motivate the number of extra earned credits.

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Dichiara

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Titolo: Picariello Lectures on Data Science VII: Data Driven Transformation in WINDTRE through Manager voice

Relatore: Marcello Savarese, Erica Bertone, Amida Kudasheva

Data: 16/12/2020

tenutosi in modalità telematica sulla piattaforma Microsoft Teams
ed avente durata di 2 ore, per un totale di 0,4 CFU.

Dichiara altresì di non aver potuto produrre apposita attestazione di partecipazione perché questa non veniva fornita dalla piattaforma.

In Fede,

IL DICHIARANTE

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Titolo: Picariello Lectures on Data Science VIII: From Photometric Redshifts Improved Weather Forecasts an interdisciplinary view on machine learning

Relatore: Kai Polsterer

Data: 13/01/2021

tenutosi in modalità telematica sulla piattaforma Microsoft Teams
ed avente durata di 1 ore, per un totale di 0,2 CFU.

Dichiara altresì di non aver potuto produrre apposita attestazione di partecipazione perché questa non veniva fornita dalla piattaforma.

In Fede,

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Titolo: Picariello Lectures on Data Science IX: Cybercrime and electronic evidence

Relatore: Eng. Matteo Lucchetti

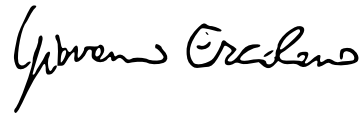
Data: 20/01/2021

tenutosi in modalità telematica sulla piattaforma Microsoft Teams
ed avente durata di 2 ore, per un totale di 0,4 CFU.

Dichiara altresì di non aver potuto produrre apposita attestazione di partecipazione perché questa non veniva fornita dalla piattaforma.

In Fede,

IL DICHIARANTE



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Titolo: Picariello Lectures on Data Science X: AI Legal - Artificial Intelligence for notary's sector – a case study

Relatore: Salvatore Palange

Data: 27/01/2021

tenutosi in modalità telematica sulla piattaforma Microsoft Teams
ed avente durata di 1 ore, per un totale di 0,2 CFU.

Dichiara altresì di non aver potuto produrre apposita attestazione di partecipazione perché questa non veniva fornita dalla piattaforma.

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Titolo: Picariello Lectures on Data Science XII: Machine Learning: causality lost in translation

Relatore: Edwin A. Valentijn

Data: 10/02/2021

tenutosi in modalità telematica sulla piattaforma Microsoft Teams
ed avente durata di 1,5 ore, per un totale di 0,3 CFU.

Dichiara altresì di non aver potuto produrre apposita attestazione di partecipazione perché questa non veniva fornita dalla piattaforma.

In Fede,

IL DICHIARANTE

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Titolo: Picariello Lectures on Data Science XIII: Approach to Graph Machine Learning

Relatore: Miroslav Cepek

Data: 17/02/2021

tenutosi in modalità telematica sulla piattaforma Microsoft Teams
ed avente durata di 1 ore, per un totale di 0,2 CFU.

Dichiara altresì di non aver potuto produrre apposita attestazione di partecipazione perché questa non veniva fornita dalla piattaforma.

In Fede,

IL DICHIARANTE

CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Module Title **SCIENTIFIC PROGRAMMING AND VISUALIZATION WITH PYTHON**

Lecturer **PROF. ALESSIO BOTTA**

Dates **04/03/2020 – 06/03/2020**

Student **GIOVANNI ERCOLANO**

Cycle **XXXIII**

Credits earned **3**

Lecturer signature

Above information are provided to attest that the student attended lessons relevant to the module held in the indicated period.

Earned Credits depend on the student performance in the module activities and are provided and certified by the lecturer. The amount of earned credits is usually limited to the number or credits reported in the List of Modules relevant to the ITEE PhD. If the case, the lecturer is kindly requested to shortly motivate why the earned credits exceeds this limit.

Scuola Politecnica e delle Scienze di Base

University of Napoli Federico II

Course title	**Matlab fundamentals**
Lecturer	**Agostino De Marco - Stefano Marrone**
Student	**Giovanni Ercolano**
Hours	**20/20**
PhD School DIETI	**Information Technology and Electrical Engineering (ITEE) -**
cycle	**XXXIII**
Credits	**2**
Score:	**Good**
Date	**27/03/2020**

Lecturer signature

CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Module Title **VIRTUALIZATION TECHNOLOGIES AND THEIR APPLICATIONS**

Lecturer **DR. LUIGI DE SIMONE**

Dates **06/04/2020 – 15/05/2020**

Student GIOVANNI ERCOLANO

Cycle XXXIII

Credits earned 4

Lecturer signature

Above information are provided to attest that the student attended lessons relevant to the module held in the indicated period.

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UNIVERSITÀ DEGLI STUDI DI NAPOLI
FEDERICO II

DIPARTIMENTO DI
INGEGNERIA
INDUSTRIALE

Oggetto: attestato di frequenza e superamento della verifica

Si attesta che il dottorando GIOVANNI ERCOLANO nato a SORRENTO (NA), il 31/05/1987, iscritto al corso di dottorato di ricerca in ITEE – Information Technologies and Electrical Engineering, XXXIII ciclo, ha frequentato il corso dal titolo:

Innovation management, entrepreneurship and intellectual property

e in data odierna ha superato la verifica prevista acquisendo 5 CFU.

Contenuti del corso:

tematiche della valorizzazione dei risultati della ricerca attraverso la creazione d'impresa, della proprietà intellettuale e della brevettazione.

Data 19/06/2020

Firma del coordinatore scientifico del corso

Prof. Pierluigi Rippa

CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Module Title **DESIGN AND IMPLEMENTATION OF AUGMENTED REALITY SOFTWARE SYSTEM**

Lecturer **PROF. DOMENICO AMALFITANO**

Dates **JUNE 2020**

Student **GIOVANNI ERCOLANO**

Cycle **XXXIII**

Credits earned **4**

Lecturer signature

Above information are provided to attest that the student attended lessons relevant to the module held in the indicated period.

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IEEE

THE 29TH IEEE INTERNATIONAL CONFERENCE ON
ROBOT AND HUMAN INTERACTIVE COMMUNICATION
31 August – 4 September, Virtual Conference

IEEE RO-MAN
2020 VIRTUAL CONFERENCE

Certificate of attendance

This is to certify that

Giovanni Ercolano

participated in the 29th IEEE International Conference on Robot & Human Interactive Communication held virtually on August 31st, 2020 - September 4th, 2020.

Silvia Rossi
General Chair
IEEE RO-MAN 2020

IEEE

THE 29TH IEEE INTERNATIONAL CONFERENCE ON
ROBOT AND HUMAN INTERACTIVE COMMUNICATION
31 August – 4 September, Virtual Conference

IEEE RO-MAN
2020 VIRTUAL CONFERENCE

Certificate of appreciation

This certificate is awarded to

Giovanni Ercolano
Web Chair

to show our appreciation for their excellent service in the 29th IEEE International Conference on Robot & Human Interactive Communication held virtually on August 31st, 2020 - September 4th, 2020.

Silvia Rossi
General Chair
IEEE RO-MAN 2020

CREDITS ATTESTATION

PhD in Information Technology and Electrical Engineering

Università degli Studi di Napoli Federico II

Module Title **DIGITAL FORENSICS' METHODS, PRACTICES AND TOOLS**

Lecturer **DR. GIOVANNI COZZOLINO**

Dates **03 – 05 – 06 – 09 – 10/11/2020**

Student **GIOVANNI ERCOLANO**

Cycle **XXXIII**

Credits earned **3**

Lecturer signature

Giovanni Cozzolino

Above information are provided to attest that the student attended lessons relevant to the module held in the indicated period.

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