
Federico Siciliano

Date of Birth: 02/10/1994

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WORK EXPERIENCE

Applied Scientist Intern

Amazon Dev Center Italy SRL

03/2022 - 02/2023 - Turin, Italy

Teaching assistant - MSc course on Data Mining Technology For Business And Society

Sapienza, Dipartimento di Ingegneria Informatica, Automatica e Gestionale

2020 - CURRENT - Rome, Italy

Scholarship Contract for Research Activities

Sapienza, Dipartimento di Ingegneria Informatica, Automatica e Gestionale

05/2020 - 10/2020 - Rome, Italy

- Design of the Diabetology Project database and preparation of the experimentation platform for machine learning algorithms
- Analysis and implementation of adaptive planning systems

PUBLICATIONS

- **A data-driven approach to refine predictions of differentiated thyroid cancer outcomes: a prospective multicenter study**
Giorgio Grani, Michele Gentili, Federico Siciliano et al.
The Journal of Clinical Endocrinology & Metabolism, 2023
- **The CAESAR Project for the ASI Space Weather Infrastructure**
Laurenza et al.
Remote Sensing Vol. 15, 2023
- **Deep active learning for misinformation detection using geometric deep learning**
Giorgio Barnabò, Federico Siciliano, Carlos Castillo, Stefano Leonardi, Preslav Nakov, Giovanni Da San Martino, Fabrizio Silvestri
Online Social Networks and Media Vol 33, 2023
- **Leveraging Inter-Rater Agreement for Classification in the Presence of Noisy Labels**
Maria Sofia Bucarelli, Lucas Cassano, Federico Siciliano, Amin Mantrach, Fabrizio Silvestri
Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2023
- **G. Barnabò, F. Siciliano, C. Castillo, S. Leonardi, P. Nakov, G. Da San Martino, F. Silvestri**
FbMultiLingMisinfo: Challenging Large-Scale Multilingual Benchmark for Misinformation Detection
2022 International Joint Conference on Neural Networks (IJCNN), 2022

- **F. Siciliano, M. S. Bucarelli, G. Tolomei, F. Silvestri**
NEWRON: a new generalization of the artificial neuron to enhance the interpretability of neural networks
2022 International Joint Conference on Neural Networks (IJCNN), 2022
- **F. Siciliano, G. Consolini, R. Tozzi, M. Gentili, F. Giannattasio, P. De Michelis**
Forecasting SYM-H Index: A Comparison Between Long Short-Term Memory and Convolutional Neural Networks, Space Weather, 2020.

EDUCATION AND TRAINING

PhD in Data Science — EQF Level 8

Sapienza University of Rome

11/2020 - CURRENT - Rome, Italy

Main topic: Neural Networks, Explainable Artificial Intelligence (XAI)

Master courses:

- Neural Networks for Data Science Applications [6 credits]
- Earth Observation Data Analysis [6 credits]

PhD courses:

- Machine Learning in Production [3 credits]
- Neural Information Retrieval and NLP [3 credits]
- Generative Deep Learning [3 credits]
- Learning in Games, Markets, and Sequential Decision Making [3 credits]

Summer Schools:

- ACDL2021: Advanced Online & Onsite Course on Data Science & Machine Learning

Master's Degree in Data Science — EQF Level 7

Sapienza University of Rome

09/2017 - 25/10/2019 - Rome, Italy

Degree fully taught in English

Graduation vote: 110 with honors / 110

Master thesis:

Title: Forecasting of SYM-H index using Recurrent and Convolutional Neural Networks: A neural network approach to the prediction of magnetospheric response to interplanetary magnetic field changes

Abstract: Extensive analysis of various types of neural networks (both Recurrent and Convolutional) and combination of hyper-parameters, in order to provide a warning in a useful time for geomagnetic storms. The neural network was capable of predicting the SYMH index at a distance of one hour with an accuracy of more than 90% (in terms of R2), exhibiting excellent behaviour especially in the storm phase.

Thesis advisor: Prof. Stefano Leonardi

External Advisor: Dr. Giuseppe Consolini (INAF - Italian National Institute of Astrophysics)

Passed Exams and Educational Activities:

- ALGORITHMIC METHODS OF DATA MINING AND LABORATORY (ING-INF/ 05): 30/30 (9 credits), 22/01/2018
- INTELLECTUAL PROPERTY COMPETITION AND DATA PROTECTION LAW (IUS/ 04): 26/30 (6 credits), 29/01/2018
- FUNDAMENTALS OF DATA SCIENCE AND LABORATORY (INF/01): 27/30 (9 credits), 12/02/2018
- DATA MANAGEMENT FOR DATA SCIENCE (ING-INF/05): 30/30 (6 credits), 13/06/2018
- QUANTITATIVE MODELS FOR ECONOMIC ANALYSIS AND MANAGEMENT (ING-IND/35): 30 with honors/30 (6 credits), 21/06/2018
- DATA MINING TECHNOLOGY FOR BUSINESS AND SOCIETY (ING-INF/05): 30/30 (6 credits), 27/06/2018
- DATA MONITORING ANALYSIS AND COMMUNICATION (ING-INF/03): 29/30 (6 credits), 05/07/2018
- STATISTICAL METHODS IN DATA SCIENCE AND LABORATORY (SECS-S/01): 30/30 (12 credits), 09/07/2018
- NETWORKING FOR BIG DATA AND LABORATORY (ING-INF/03): 26/20 (9 credits), 18/09/2018
- ALTRE CONOSCENZE UTILI PER L'INSERIMENTO NEL MONDO DEL LAVORO [SAS and Facebook Training Camps]: qualified (3 credits), 16/10/2018
- DATA DRIVEN DECISION MAKING (MAT/09): 28/30 (9 credits), 11/01/2019
- BIG DATA FOR OFFICIAL STATISTICS (SECS-S/05): 30/30 (6 credits), 15/01/2019
- SOCIAL AND BEHAVIORAL NETWORKS (INF/01): 30 with honors/30 (6 credits), 21/02/2019
- DIGITAL EPIDEMIOLOGY (ING-INF/06): 29/30 (6 credits), 23/03/2019
- FINAL EXAM: qualified (24 credits), 25/10/2019

Bachelor's Degree in Management Statistics — EQF Level 6

Sapienza University of Rome

09/2014 - 18/07/2017 - Rome, Italy

Graduation vote: 110 with honors / 110

Bachelor Thesis:

Title: Takenoko, a low-cost playtesting methodology

Abstract: Study of a board game (Takenoko), using online comments and reviews to focus attention on the problems already detected by players, and adoption of a particular method of play-testing: a software able to simulate the mechanics of the game in question and an Artificial Intelligence capable of playing it, thus realizing a greater number of simulations than can be achieved using real people and reducing (almost to zero) the cost of the procedure

Thesis advisor: Prof. Paolo Giulio Franciosa

Passed Exams and Educational Activities:

- MATEMATICA I CORSO (MAT/03): 28/30 (9 credits), 22/10/2014 [exam recognized from previous degree]
- INFORMATICA (INF/01): 28/30 (9 credits), 22/10/2014 [exam recognized from previous degree]
- MATEMATICA II CORSO (MAT/05): 23/30 (9 credits), 22/10/2014 [exam recognized from previous degree]
- STATISTICA DI BASE (SECS-S/01): 30/30 (9 credits), 14/01/2015
- ECONOMIA POLITICA (SECS-P/01): 30/30 (9 credits), 09/06/2015
- STATISTICA ECONOMICA (SECS-S/03): 30/30 (9 credits), 17/06/2015
- LINGUA INGLESE: qualified (3 credits), 18/09/2015
- MATEMATICA III CORSO (MAT/05): 30/30 (6 credits), 12/01/2016
- LABORATORIO DI PROBABILITÀ: qualified (3 credits), 19/01/2016
- PROBABILITÀ (MAT/06): 30/30 (9 credits), 19/01/2016
- BASI DI DATI (INF/01): 30 with honors/30 (9 credits), 09/02/2016
- OTTIMIZZAZIONE (MAT/09): 28/30 (9 credits), 07/06/2016
- INFERENZA STATISTICA E LABORATORIO (SECS-S/01): 28/30 (12 credits), 09/06/2016
- DATI RETI E SISTEMI (MAT/09): 30/30 (9 credits), 22/06/2016
- LABORATORIO DI OTTIMIZZAZIONE: qualified (3 credits), 08/07/2016
- STATISTICA AZIENDALE (SECS-S/03): 27/30 (9 credits), 11/01/2017
- RICERCA PER IL MARKETING (SECS-S/03): 25/30 (9 credits), 11/01/2017
- LABORATORIO DI SOFTWARE STATISTICI: qualified (3 credits), 11/01/2017
- STATISTICA MULTIVARIATA (SECS-S/01) :30/30 (9 credits), 12/01/2017
- ALTRE CONOSCENZE UTILI PER L'INSERIMENTO NEL MONDO DEL LAVORO [Technical English course]: qualified (3 credits), 24/01/2017
- STATISTICA PER LA RICERCA SPERIMENTALE (SECS-S/02): 30/30 (9 credits), 09/02/2017
- TECNICHE DI CAMPIONAMENTO (SECS-S/01): 24/30 (6 credits), 05/06/2017
- SERIE STORICHE E PREVISIONI STATISTICHE (SECS-S/01): 25/30 (9 credits), 06/06/2017
- FINAL EXAM: qualified (6 credits), 18/07/2017

Bachelor's Degree in Mathematics (Not completed) — EQF Level 6

Sapienza University of Rome

09/2013 - 2014 - Rome, Italy

Passed Exams and Educational Activities:

- ALGEBRA LINEARE (MAT/03): 28/30 (9 credits)
- LABORATORIO DI PROGRAMMAZIONE E CALCOLO (INF/01): 28/30 (9 credits)
- CALCOLO I (MAT/05): 28/30 (9 credits)

Scientific High School Diploma - National Informatics Plan (PNI) — EQF Level 4

Primo Levi Scientific High School

2008 - 2013 - Rome, Italy

Final score: 100/100

LANGUAGE SKILLS

Mother tongue: Italian

Foreign languages:

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	B2	B2	C1
	Cambridge ESOL Level 1 Certificate in ESOL International University of Cambridge, 03/2013 CEFR level: B2				
Spanish	B1	B1	B1	B1	B1
	Diploma de Español como lengua extranjera (Nivel inicial) Instituto Cervantes, 08/2008 CEFR level: B1				
Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user					

DIGITAL SKILLS

Basic computer skills: Operating systems (Excellent), Programming (Excellent), Text editing (Excellent), Electronic sheets (Excellent), Database managing (Excellent), Computer drawing (CAD) (Limited), Internet browsing (Excellent), Multimedia (sounds, images, videos) (Limited)

Programming Languages: C++, Java, LaTeX, MATLAB, Python, R, SAS, SQL

Popular applications and programs: iWork (Pages, Keynote, Numbers), Microsoft Office (Word, Excel, PowerPoint, Access), MySQL, VirtualBox

ADDITIONAL INFORMATION

DRIVING LICENSE: B

SPORT CERTIFICATIONS

2016-2017: Trainer of Taekwondo

2016: Black belt of Taekwondo, 1° dan

2010-2012: PADI - Open Water Diver, Advanced Open Water Diver, Enriched Air Diver, Deep Diver, Sidemount Diver