Damiano Verda

Date of birth: 11/09/1985 | **Nationality:** Italian | **Gender:** Male | **Email address:**

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WORK EXPERIENCE

03/2019 – CURRENT
HEAD OF DATA SCIENCE RULEX, INC.

The data science department is in charge of all the Proof Of Value and pilot project, working with business development. Also, it is responsible for new workflow creations, working with customer support/post-sales. Some examples of workflows applications: automatic correction of inconsistencies in shipping address, detection of insurance frauds. The department also collaborates with marketing in order to contribute with new business cases, insights, contents. Furthermore, it manages training activities, also including supervision of theses and internships, both with an academic and a corporate background.
Participation to the ACL 2019 conference, annual meeting of the association for computational linguistics (Florence, 28th July - 2nd August 2019).
Supervisor of the master thesis in Computer Engineering "Fair Machine Learning in Credit Scoring", discussed at the University of Genova.
Address Genova (Italy) - Boston (MA)

01/2021 – CURRENT United States
GUEST SPEAKER - DATABASE MINING AND INNOVATION NEW YORK UNIVERSITY

01/2018 – 02/2019
SENIOR DATA SCIENTIST RULEX INC

- Development and managament of data science projects- Pre-sales and post-sales technical support- Management and execution of training activities
Address Genova (Italy) - Boston (MA)

01/2017 – 01/2018
SENIOR SOFTWARE ENGINEER RULEX, INC.

 - Design and development of new features for the Rulex Analytics machine learning suite, with particular emphasis on association rule mining algorithms. Adopted programming languages: C/C++, Python.
 - Development of machine learning projects of particular relevance for the company, including interaction with the customer
 - Training activities, also including supervision of theses and internships, both with an academic and a corporate background
Reviewer of scientific papers for *Health Informatics Journal*.
Address Genova (Italy) - Boston (MA)

09/2015 – 12/2016
DATA ENGINEER RULEX, INC.

Working on the design, development and test of innovative machine learning features, to be included in the Rulex software suite.
Co-author of the invited speech *"Novelty detection: principles, Rulex approach and a case study in cyber security",* presented at Nokia Bell Labs in Dublin in October 2016.
Preparation and presentation of teaching materials at the **Rulex Training Days**, a two day training course recognized by the association of Engineers of Savona and Genova in its June 2016 issue.
Courses followed through the e-learning platform Coursera:
Machine Learning (prof. Andrew Ng, Stanford University, scored 100%), Pattern Discovery in Data Mining (prof. Jiawei Han, University of Illinois at Urbana-Champaign, scored 100%)
Reviewer of scientific papers for *Health Informatics Journal*.

Co-supervisor of the bachelor thesis in statistics and data processing "Feature ranking for classification problems", discussed at the University of Genova.
Address Genova (Italy) - Boston (MA)

04/2009 – CURRENT
AUTHOR AND BLOGGER MR WEBMASTER, BUSTO ARSIZIO (VA), VIA VALLE OLONA 23

Writing contributions concerning computer science (C++ course, guides about Mit App Inventor and Dropbox, articles, posts).
Address Italy

09/2014 – 09/2015
FELLOW RESEARCHER ITALIAN NATIONAL RESEARCH CENTER (CNR-IEIIT)

Participation in the **Interomics** flagship project, devoted to the development of an integrated platform for the application of "homics" sciences to the definition of biomarkers, predictive and diagnostic profiles. Participation in the **Mediare** research project, which is based on the development of new diagnostic imaging methodologies for rheumatic diseases. Involved both in state-of-the-art study activities and in the creation of possible machine-based approaches to the automatic detection of anatomical features. Developing and implementing machine learning algorithms and techniques, which were included in the Rulex software suite, since 3.2 release on.
Supported the analysis about banking business models carried out using Rulex whose results were published in:
"Modelli di business: una verifica empirica sulle banche italiane con la Big Data Analytics", Antonella Trocino, *Bancaria (edited by Italian Banking Association, ABI)*, March 2016
Address Genova, Italy

EDUCATION AND TRAINING

02/2019 – 09/2020
MASTER DEGREE IN MANAGEMENT ENGINEERING (110 CUM LAUDE) Telematic International University Uninettuno

Level in EQF EQF level 7 | **Thesis** Study and development of algorithms for urban freight transportation

01/2011 – 04/2014 Italy
PH. D. IN ELECTRONIC, COMPUTER, ROBOTICS AND TELECOMUNICATION ENGINEERING University of Genova

Period abroad: from 14/01/2013 until 15/09/2013 at the University of Zurich. *Research project*: localization and position tracking of Micro Aerial Vehicles based on 3D cadastral models (under the supervision of prof. Davide Scaramuzza).
Classroom courses: *Non-linear dynamical systems* (bifurcation analysis, chaos) (prof. M. Storace), *Regularization Methods for High Dimensional learning* (prof. F.Odone, L. Rosasco). **Courses followed through Coursera**: *Model Thinking* (prof. Scott E Page, Michigan University, scored above 90%), *Game Theory* (prof. Matthew Jackson and Yoav Shoham, Stanford University, passed with distinction), *Writing in the sciences* (prof. Kristin Sainani, Stanford University, passed with distinction). **Seminars:** *Scholarship skills* (within the 2013 IFI Summer School, University of Zurich), prof. Emerson Murphy-Hill (North Carolina State University), *Advanced technical presentation techniques*, ETH Zurich, Damian Conway (Thoughtstream CEO), *We are the web, the rise of the social machine* e *Web 3.0 emerging, linked-data and the semantic web*, Genova, prof. James Hendler (Tetherless World Professor of Computer and Cognitive Science) **Summer Schools**: *European Agent Systems Summer School*, 11-15 July 2011, University of Girona, *Aerial Service Robotics Summer School*, 2-6 July 2012, ETH Zurich.
Teaching: Teaching Assistant for the courses of the first year in Computer Engineering: *Computer science* (C/C++ programming languages) (September 2011 – December 2012) and *Digital Electronic Systems* (Finite State Machine design, VHDL hardware designing language) (since September 2011). Preparation of teaching materials, assistance during exercise sessions and examinations (both written and oral).
Reviewer of scientific papers for the *Journal of Robotics and Autonomous Systems,* the *Journal of Intelligent Service Robotics* and the *IEEE Conference on Decision and Control.*
Co-supervisor of three master theses in computer engineering discussed at the University of Genova: *"Planning and displaying paths on mobile devices for rescuers in search and rescue operations",*

"Learning object model templates through multiple views returned by Microsoft Kinect" and "Planning optimal paths with incremental knowledge: study and implementation of algorithms".

Address Italy ｜ **Field of study** Information and Communication Technologies ｜ **Level in EQF** EQF level 8 ｜

Thesis Robotic perception in emergency response

09/2007 – 07/2010 Italy
MASTER DEGREE IN COMPUTER ENGINEERING (110/110 CUM LAUDE) University of Genova

Thesis: *"Development of a system for mapping and self-localization based on wearable sensors"*. Work carried out: choice and purchase of sensors, analysis of the data gathered by the sensors, choice and integration of the SLAM algorithm, realization of the prototype, choice and execution of the experiments. **Adopted tools**: C++ and C# programming languages, Windows and Linux operating systems, MATLAB and MATLAB-Simulink applications.
Robotics and automation course. *Contents:* Process automation and control, Robotics, Programming, Operational Research. Programming languages: C, C++, Java, basic C#. **Other courses:** 14 courses and 8 seminars oriented towards developing skills both in the technical-scientifical field and in the organizational and socio-economical field. These courses and seminars were organized by the *Superior Institute in ICT, ISICT* Genova.

Address Italy ｜ **Level in EQF** EQF level 7

09/2004 – 09/2007 Italy
BACHELOR IN COMPUTER ENGINEERING (110/110) University of Genova

Thesis: "*Experimenting Wireless Sensor Network in Robotic and Home Automation*".
Contents: basic maths and physics. Basic programming (C/C++ programming languages), database management, computer networks.

Address Italy ｜ **Level in EQF** EQF level 6

09/1999 – 09/2004 Imperia, Italy
HIGH SCHOOL DIPLOMA (100/100) Liceo Scientifico "G.P. Vieusseux"

Two foreign languages courses (English and French). Particular mention for *"a quality of outstanding excellence for the great richness of cultural references and for the skill in logic and speech"*.

Address Imperia, Italy

LANGUAGE SKILLS

Mother tongue(s):   **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C2	C2	C2
FRENCH	B2	B2	B2	B2	B2
GERMAN	A2	A2	A2	A2	A2

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

ADDITIONAL INFORMATION

PUBLICATIONS

Publications
1. *A Novel Rule-Based Modeling and Control Approach for the Optimization of Complex Water Distribution Networks*, Lecture Notes in Networks and Systems, Springer 2023

2. *Validation of a predictive model for obstructive sleep apnea in people with Down syndrome*, American Journal Of Medical Genetics, Part A, November 2022
3. A New XAI-based Evaluation of Generative Adversarial Networks for IMU Data Augmentation, IEEE International Conference on E-health Networking, Application and Services (HealthCom) 2022
4. *The clinical meaning of the area under a Receiver Operating Characteristic curve for the evaluation of the performance of disease markers*, Epidemiology And Health, October 2022
5. *LLM-PBC: Logic Learning Machine-Based Explainable Rules Accurately Stratify the Genetic Risk of Primary Biliary Cholangitis*, Journal of Personalized Medicine, October 2022
6. *Machine learning in primary biliary cholangitis: A novel approach for risk stratification*, Liver International, Issue Cover March 2022
7. *Controllo automatico delle variabili cliniche della scheda di dimissione ospedaliera (SDO), mediante l'utilizzo di tecniche di machine learning (in Italian language)*, Organizzazione Sanitaria, Marzo 2022
8. *Analyzing gene expression data for pediatric and adult cancer diagnosis using logic learning machine and standard supervised methods*, BMC Bioinformatics, November 2019
9. *Unsupervised learning and rule extraction for Domain Name Server tunneling detection*, Internet Technology Letters, March/April 2019
10. *Logic Learning Machine and standard supervised methods for Hodgkin's lymphoma prognosis using gene expression data and clinical variables*, Health Informatics Journal, March 2018
11. *Air-ground Matching: Appearance-based GPS-denied Urban Localization of Micro Aerial Vehicles*, Journal of Field Robotics (JFR), October 2015
12. *Micro Air Vehicle Localization and Position Tracking from Textured 3D Cadastral Models*, International Conference on Robotics and Automation (ICRA) 2014
13. *Structure-based object representation and classification in mobile robotics through a Microsoft Kinect*, Robotics And Autonomous Systems (RAS), December 2013
14. *Human navigation and mapping with a 6DOF IMU and a laser scanner*, December 2011

Dire e contraddire diversi modi per esplorare, Armando Editore, 2005, Roma

NETWORKS AND MEMBERSHIPS

Memberships IEEE – CIS (Institute of Electrical and Electronics Engineers - Computational Intelligence Society) Member
Registered with the association of engineers since May 2011
Registered with the association of journalists ("giornalisti pubblicisti") since November 2012

HONOURS AND AWARDS

Honours and awards Winner of the scholarship for master degree students offered by the "Superior Institute in Information and Communication Technology" in Genova (September 2007). Winner of the « Concours de langue francaise *Visions d'Europe* » , San Remo (IM) November 2003. Winner of the literary award "*Fratelli Serra*", Imperia 1999.

ORGANISATIONAL SKILLS

Organisational skills Since March 2019, head of the group in charge of turning the Rulex software features into value for the clients. Strong interaction not only with the technical area, but also with the end users, as well as with the sales and marketing department of the company.
Member of the Comitee of Editing of "L'Orma del Viaggiatore" newspaper from March 2008 to September 2009.
Activities carried out in the context of the Talent Growth company program:
- Workshop "Healtier Mental Models", held by the Rao Institute
- Coaching, according to the GROW paradigm (theoretical and practical sessions)

COMMUNICATION AND INTERPERSONAL SKILLS

Communication and interpersonal skills The technical activities and of coordination are carried out, on a daily basis, in collaboration with the Rulex office (located in Boston) and in close contact with customers worldwide
Activities carried out in the context of the Talent Growth company program:
- KII influence assessment and workshop, held by the Karen Keller Institute

JOB-RELATED SKILLS

Job-related skills

Included, since April 2020, in the list of experts about information engineering (macrocategories ICT Innovation Consultant and ICT Solutions Designer/Tester) drafted by the Association of Engineers of Genova

OTHER SKILLS

Other skills

Registered journalist, contributor to the "Dirigere la scuola" review and with Ubitennis.Net, Mr Webmaster, Teatro.it, Thrillercafe and Corriere Dello Spettacolo websites.
National Chess Instructor, chess player included in the FIDE ranking with the second national category.

CONFERENCES AND FESTIVALS

Conferences and festivals

Participation to the "Robotica 2012" (Milan) and the "Robots on Tour 2013" (Zurich) robotic festivals.
Participation to the 7th international conference on Applied Geophysics for Environment and territorial system engineering (AGE 2012, Iglesias, Italia), 10 - 12 October 2012 and presentation of the work "Mapping, localization and decision making through wearable sensors for first responders involved in search and rescue operations"