

## PERSONAL INFORMATION

Damiano Verda



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Sex Male | Date of birth 11/09/1985 | Nationality Italian

## POSITION

Data Engineer, Rulex Inc.

## WORK EXPERIENCE

01/2018–Present

**Senior Software Engineer**

Rulex, Inc., Genova (Italy) - Boston (MA)

- 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

09/2015–12/2017

**Data Engineer**

Rulex, Inc., Genova (Italy) - Boston (MA)

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%)

**Papers published in peer-reviewed journals:**

Logic Learning Machine and standard supervised methods for Hodgkin's Lymphoma prognosis using gene expression data and clinical variables (Stefano Parodi, Chiara Manneschi, Damiano Verda, Enrico Ferrari, Marco Muselli), *Health Informatics Journal*, Accepted for publication

**Reviewer** of scientific papers for *Health Informatics Journal*.

**Co-supervisor of the bachelor thesis in statistics and data processing discussed** "Feature ranking for classification problems", discussed at the University of Genova.

04/2009–Present

**Author and blogger**

Mr Webmaster, Busto Arsizio (VA), Via Valle Olona 23 (Italy)

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

09/2014–09/2015

**Fellow Researcher**

Italian National Research Center (CNR-IEIT), Genova (Italy)

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

#### Paper published in peer-reviewed journals:

Air-ground Matching: Appearance-based GPS-denied Urban Localization of Micro Aerial Vehicles (András L. Majdik, Damiano Verda, Yves Albers-Schoenberg and Davide Scaramuzza), *Journal of Field Robotics*, October 2015

## EDUCATION AND TRAINING

06/2014–Present

### Postdoc Courses

University, Association of Engineers and Journalists, Genoa (Italy)

**University of Genova:** "*Introduction to Python Programming*", 5-6 June 2014 (prof. G. Lagorio); "*Machine Learning - A Computational Intelligence Approach*", 9-13 June 2014 (prof. F. Masulli, S. Rovetta); "*Declarative programming and (co)induction*", 23-27 June 2014 (prof. D. Ancona, E. Zucca).

**Association of Engineers:** "*News on Mying-Certing Professional Upgrade*", April 18, 2015; "*Cloud Computing - Websites*", April 22, 2015; "*Business Process Model and Notation 2.0*", May 17, 2015; "*SE Linux*", May 26, 2015; "*Certing*", June 11, 2015; "*Introduction to AGILE Methodologies*", October 24, 2015; "*Digital Electronic Systems*", October and November 2016; "*Spreadsheet Composition*", February 4, 2017; "*ICT Documentation*", May 19, 2017, "*Digital Humanities*", June 26, 2017, "*Developing projects with European Funds 2014-2020*" (online course, recognized by the Engineers National Council, September 2017).

**Association of Journalists:** "*Balance sheets: Reporting Numbers*", December 13, 2014; "*FOCUS 1992, the editorial phenomenon of the nineties, which innovates the formula of scientific communication*", February 21, 2015; "*Deontology Course*", May 2015; "*Foundations of Digital Journalism*", June 2016; "*Unique text of journalist duties, harmonization of the deontological documents of the category*", 15 October 2016; "*Labor Market Reform and Labor Law Reform*", January 21, 2017; "*The new deontology*", February 2017; "*Journalism between old and new media*", March 2017

01/2011–04/2014

### Ph. D. in Electronic, Computer, Robotics and Telecommunication Engineering

EQF level 8

University of Genova (Italy)

**Thesis: Robotic perception in emergency response**, developed in the context of the research project **ARGONAUTS**, approved and financed by SIIT (regional industrial district focused on ICT).

**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).

#### Papers published in peer-reviewed journals and conferences:

Human navigation and mapping with a 6DOF IMU and a laser scanner (Marco Baglietto, Antonio Sgorbissa, Damiano Verda, Renato Zaccaria), *Journal of Robotics and Autonomous Systems*, December 2011

Structure-based object representation and classification in mobile robotics through a Microsoft Kinect (Antonio Sgorbissa, Damiano Verda), *Journal of Robotics and Autonomous Systems*, December 2013

Micro Air Vehicle Localization and Position Tracking from Textured 3D Cadastral Models (András L.

Majdik, Damiano Verda, Yves Albers-Schoenberg, Davide Scaramuzza), *Proceedings of the International Conference on Robotics and Automation (ICRA) 2014*

**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 the e-learning platform 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 (Assistant professor, 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), prof. R. Zaccaria (September 2011 – December 2012) and *Digital Electronic Systems* (Finite State Machine design, VHDL hardware designing language), prof. T. Vernazza (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"*.

09/2007–07/2010

### Master Degree in Computer Engineering (110/110 cum laude)

EQF level 7

University of Genova (Italy)

**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-scientific field and in the organizational and socio-economical field. These courses and seminars were organized by the *Superior Institute in ICT, ISICT* Genova.

**Projects:** Experimenting SmartHome in SecondLife. Analysis and experimentation of ACO (Ant Colony Optimization) algorithm to minimize the weighted total tardiness of a single machine with variable setup times (group work). Study of Microsoft Analysis Services Framework (group work). Choosing a penalty function for the control of a robot in a bidimensional space through a neural network.

09/2004–09/2007

### Bachelor in Computer Engineering (110/110)

EQF level 6

University of Genova (Italy)

**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.

09/1999–09/2004

### High School Diploma (100/100)

Liceo Scientifico "G.P. Vieusseux", Imperia (Italy)

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"*.

## PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
Certificate of Proficiency in English (CPE, Level C2), December 2007					
French	B2	B2	B2	B2	B2
Diplôme d'études en langue française (DELFF) B2, juillet 2006					
German	A2	A2	A2	A2	A2
Goethe-Zertifikat A2 Start Deutsch 2, Juni 2014					

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user  
 Common European Framework of Reference for Languages

**Communication skills** Good skills of interaction (work, study, discussion, spare time) and good skill of communication developed both in University (official and unofficial groups) and on my own. Collaboration with the cultural university students association "L'Orma del Viaggiatore" (with on-line and printed publications).

**Organisational / managerial skills** Management of some of the above mentioned groups. Member of the Committee of Editing of "L'Orma del Viaggiatore" newspaper from March 2008 to September 2009. Member of the jury and co-organizer of the "Orme Oltremare" 2009 literary award.

**Job-related skills** Qualified as professional engineer since May 2011  
 Use of AulaWeb/Moodle2 (technical sessions followed at the University of Genova)

Digital skills	SELF-ASSESSMENT				
	Information processing	Communication	Content creation	Safety	Problem solving
	Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

Digital skills - Self-assessment grid

Programming languages: proficient in C, C++, Java. Good knowledge of Python, C# and of the VHDL hardware designing language. Proficient in the use of Windows and Linux operating systems. Excellent skill in using Latex and the Texmaker editor. Proficient in the use of Matlab, Microsoft Visual Studio, Eclipse. Good skill in the use of Matlab-Simulink and of the R software. Basic knowledge of the SQL language and of the SQL Server database management application.

**Other skills** Registered journalist, presently collaborating with the "Dirigere la scuola" review and with Mr Webmaster and Teatro.it websites.  
 National Chess Instructor, chess player included in the FIDE ranking with the second national category.

ADDITIONAL INFORMATION

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

**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 française *Visions d'Europe* », San Remo (IM) November 2003. Winner of the literary award "*Fratelli*

Serra", Imperia 1999.

#### 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"

#### Memberships

AICA (italian computer science associaton) Member

IEEE – CIS (Institute of Electrical and Electronics Engineers - Computational Intelligence Society) Member

IEEE – RAS (Institute of Electrical and Electronics Engineers - Robotics And Automation Society) Member

Registered with the association of engineers since May 2011

Registered with the association of journalists ("giornalisti pubblicisti") since November 2012