



## Europass Curriculum Vitae

### Personal information

First name(s) / Surname(s) Enrico De Santis  
Address(es) Via Eudossiana, 18, 00184 Roma RM

E-mail \_\_\_\_\_

Linkedin Profile \_\_\_\_\_

Nationality Italian

### Desired employment / Occupational field

ICT

### Work experience 10

**CTO**

Dates August 2018 – December 2020

Occupation or position held Chief of Technical Officer

Main activities and responsibilities Project Management - Artificial Intelligence and Machine Learning  
Text Mining, Natural Language Processing  
Data Mining, Predictive Maintenance

Name and address of employer SisterPomos S.r.l. - Startup Innovativa "Sapienza"  
Viale Battista Bardanzellu, 77Q  
00155 Roma

Type of business or sector Industry 4.0, Technological Innovation

### Work experience 9

Dates 24-27 October 2018

Occupation or position held Trainer

Main activities and responsibilities Teacher in training course for Eurostat (European Commission) in Machine Learning and Natural Language Processing for Social Mining and related Web applications.

Name and address of employer DEVSTAT  
Av. del Oeste, 26 - First floor | 46001 Valencia, Spain

Type of business or sector **Training**

### Work experience 8

**Researcher (Current)**

Dates August 2017 -

Occupation or position held Researcher in Machine learning and Data Analysis field  
ACEA Smart Grid Project – Condition Based Maintenance  
Team leaders (Eng. Maurizio Paschero, Eng. Stefano Liotta, Eng. Silvio Alessandrini)

Main activities and responsibilities	<p>Research and Ph.D. and Master degree students tutoring</p> <ul style="list-style-type: none"> <li>- Condition Based Maintenance</li> <li>- Data analytics and data visualization</li> <li>- Data mining</li> <li>- Time series analysis and forecasting</li> <li>- Multifractal Analysis for time series</li> <li>- Business Intelligence</li> </ul>
Name and address of employer	<p>ACEA/Prof.. Antonello Rizzi  "Sapienza" University of Rome  Department of Information Engineering, Electronics and Telecommunications (DIET)  Via Eudossiana, 18  00184 - Rome - Italy</p>
Type of business or sector	<b>Research</b>
<b>Work experience 7</b>	
Dates	July 2016 – June 2017
Occupation or position held	Post-doctoral fellow at Department of Computer Science, Ryerson University (Toronto, Canada)
Main activities and responsibilities	<ol style="list-style-type: none"> <li>1) Artificial Intelligence, Machine Learning (Deep Learning), Natural Language Processing, Data Science and Social Network Analysis.</li> <li>2) Ph.D. and Master degree students tutoring</li> <li>3) Research and development of an advanced Natural Language Processing framework for Educational Data Mining purpose within the project "A Method for Designing Evidence-based Learning Material" – Private/Public Sector Partnerships (Brain Alliance Canada) - grant: Research Excellence grant (ORF-RE) Ontario. <ul style="list-style-type: none"> <li>- Subproject: An AI strategy to increase performances in public e-learning environment by Natural Language Processing.</li> <li>- LEADERSHIP &amp; TEAM MEMBERS" <ul style="list-style-type: none"> <li>o Joseph Siahou, Shore Consulting (Toronto), Managing Director.</li> <li>o John Evans –Manitoba Department of Education, Instruction, Curriculum and Assessment Branch,</li> </ul> </li> <li>- Manitoba Education and Advanced Learning.</li> <li>- UNIVERSITY PARTNERS <ul style="list-style-type: none"> <li>o York University – Dr. Nick Cercone, Professor, Electrical Engineering and Computer Science.</li> <li>o Dr. Sheila Embleton, Vice-President, Academic and Provost.</li> <li>o Ryerson University – Alireza Sadeghian, Professor, Computer Science.</li> </ul> </li> </ul> </li> <li>4) Preparation of teaching material for Machine Learning and computer science courses</li> </ol>
Name and address of employer	<p>Prof. Alireza Sadeghian  Department of Computer Science, Ryerson University  245 Church Street, ENG-287  Toronto, Ontario  Canada  M5B 2K</p>
Type of business or sector	<b>Research</b>
<b>Work experience 6</b>	
Dates	26-28 June 2017
Occupation or position held	Trainer
Main activities and responsibilities	Teacher in training course at Eurostat (European Commission, Luxembourg) in Machine Learning and Natural Language Processing for Social Mining and related Web applications.
Name and address of employer	<p>HENDYPLAN Luxembourg  10 rue André Duchscher - L-1424 Luxembourg</p>
Type of business or sector	<b>Training</b>

### Work experience 5

Dates June 2013 -December 2015  
Occupation or position held Research Assistant  
Main activities and responsibilities Research on Artificial Intelligence, Machine Learning and Data Science fields  
- Data mining  
- Time series prediction through Neural networks and Principal Component Analysis algorithms.  
- Decision Support Systems  
- Trainer in a seminar series dealing with machine learning applications to real-world problems.  
- Master degree students tutoring  
Name and address of employer Prof. Alireza Sadeghian  
Department of Computer Science  
245 Church Street, ENG-287  
Toronto, Ontario  
Canada  
M5B 2K  
Type of business or sector **Research**

### Work experience 4

Dates May 2011 - September 2011  
Occupation or position held Internship  
Main activities and responsibilities Research and Development of Artificial Intelligence and machine learning algorithms  
Name and address of employer Fondazione Ugo Bordoni - ICT Research  
Viale del Policlinico, 147 · 06 54801 Rome  
Type of business or sector Research

### Work experience 3

Dates November 2011  
Occupation or position held Technical advisor/Engineer  
Main activities and responsibilities Technical advisor at Center of R & D in Adlershof Science and Technology park (Berlin, Germany)  
Name and address of employer Province of Latina  
Type of business or sector **Consulting**

### Work experience 2

Dates November 2010  
Occupation or position held Technical advisor/Engineer  
Main activities and responsibilities Technical advice at Center of R & D in Adlershof Science and Technology park (Berlin, Germany)  
Name and address of employer Province of Latina  
Type of business or sector **Consulting**

### Work experience 1

Dates September 2008 - November 2008  
Occupation or position held Teacher  
Main activities and responsibilities Teacher in the training course in "Computer Science Fundamentals" and "Computer Network and Internet".  
- Program, material (theory and working examples) and exams preparation  
-Teaching

Name and address of employer Economic Observatory for the Development of Managerial Culture Business  
Via Monte Grappa, 57, Gaeta LT

Type of business or sector **Training**

#### Education And Training 4

Dates 2012 – 2015/16

Title of qualification awarded PhD in Information and Communication Engineering

Main subjects/occupational Thesis Titles: Computational Intelligence in Complex Systems with applications to Smart Grids

Skills covered Machine Learning, Computational Intelligence, Artificial Intelligence, Neural Networks, Smart Grids, Data Science

- Clustering and classification
- Dimensionality reduction and data visualization
- Computational Intelligence and Evolutionary computation
- Decision Support Systems

Name and type of organization Information Engineering, Electronics and Telecommunications Department (DIET), "Sapienza" University of Rome (Rome, Italy).

#### Education And Training 3

Dates 2009 - 2012

Title of qualification awarded Master's Degree in Information and Communication Engineering,  
vote: 110/110 *cum laude*

Main subjects/occupational Thesis Titles: Genetic Optimization of Control System for Energy Flow Management

Skills covered Soft Computing, Computational Intelligence, Stochastic Process, Adaptive filtering, Computer Programming, ICT, TLC Systems.

Name and type of organization "Sapienza" University of Rome (Rome, Italy).

#### Education And Training 2

Dates 2002 - 2007

Title of qualification awarded Bachelor Degree in Telecommunication Engineering

Main subjects/occupational Thesis Titles: MSRP Protocol in IM Applications

Skills covered Network Technologies (TCP/IP and Internet protocols), Radar Technologies, Advance Signal Processing, Modulation Techniques, Database, Computer Science.

Name and type of organization "Sapienza" University of Rome (Rome, Italy)

#### Education And Training 1

Dates 1996 - 2001

Title of qualification awarded Liceo Scientifico (High School).

Name and type of organization Liceo Scientifico Enrico Fermi (Gaeta, Italy).

Mother tongue(s) Italian

Self-assessment

European level (\*)

**English**

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
C1	C1	C1	C1	C1

**French**

B1

B1

A2

A2

B1

(\*) [Common European Framework of Reference for Languages](#)

**Social skills and competences**

- Good ability to adapt to multicultural environments, gained through my work experiences abroad (e.g. Canada);
- Good communication skills gained through my experience as Trainer, Research Assistant as well as Post-doctoral fellow ;
- Experiences as speaker in several international conferences and training courses;
- Team spirit.

**Organisational skills and competences**

- Leadership (mentoring MD and Ph.D. students);
- Sense of organisation (experience in research projects development);
- Good experience in project or team management (acquired as CTO in SisterPomos, Startup "Sapienza").
- Teleworking skill acquired during the stay in Canada as Ph.D. researcher and the collaboration with the partnership of Sapienza University and ACEA in Italy, within the ACEA Smart Grid Project.

**Technical and Computer skills and competences**

- Operating System: , Windows NT, Xp, Vista, Windows 7, Windows 10, Linux, Android
  - Software: Microsoft Office; P-Spice (electronic circuit design),
  - Database: SQL and Db design (acquired through seminars, University courses)
  - Basic knowledge of graphic design applications (Adobe Illustrator™, PhotoShop™)
  - Programming Language: Basic, Visual Basic, Java, C++, ; HTML, PHP, CSS, Python (acquired through seminars, University courses and working);
  - Docker
- Data analysis:
- R (statistics and data analysis)
  - MATLAB (scientific prototyping and simulation), SIMULINK,
  - Elasticsearch
  - Anaconda (Python)
  - Spark
- Knowledge transfer in business environment
  - Technical writing: LaTeX (acquired during MD and PhD thesis);
  - Network Simulation: Omnet++; (acquired through seminars, University courses)
  - Network Configuration; Cryptography, cyber security (acquired through seminars, University courses).
  - Terrapack32M (Environmental modeling ad forecasting, early warning systems)
- Skills: Data Science, Data Analysis and Visualization, Artificial Intelligence, Machine Learning, Classification, Natural language processing, Deep Learning and Neural Network, Time Series Forecasting, Complex Systems, Clustering, Soft Computing, Fuzzy Logic, Evolutionary Computation, , Adaptive Filtering, Information Theory, Network Management, Smart Grids, Parallel Computation. Advanced Statistical Analysis (PCA, SVD, etc.), Multifractal Analysis. (acquired through research, seminars, conferences, university courses and during the Ph.D. Thesis and MD thesis)

**Driving licence**

European B driving licence.

## Additional information

IEEE Student Member; International Neural Network Society member; Brain Alliance, Big Data Research, Analytics, and Information Network Ontario member, National Division Electrical Engineering Researchers member.

Certificate of achievement of the first online course “Introduction to Artificial Intelligence” by Professor Peter Norvig at Stanford university school of engineering, Stanford University, CA 94, USA

### - Peer reviewed publications

- (Conference) E. De Santis, A. Rizzi, A. Sadeghian, *A Learning Intelligent System for Classification and Characterization of Localized Faults in Smart Grids*, IEEE Congress on Evolutionary Computation 2017 Donostia - San Sebastián, Spain proceedings, June 5-8, 2017 [ENG]
- (Journal) E. D. Santis, L. Livi, A. Sadeghian, and A. Rizzi. *Modeling and recognition of smart grid faults by a combined approach of dissimilarity learning and one-class classification*. *Neurocomputing*, 170:368 – 383, 2015. ISSN 0925-2312. doi: <http://dx.doi.org/10.1016/j.neucom.2015.05.112> [ENG].
- (Book Chapter) E. De Santis, F. Mascioli, A. Sadeghian, and A. Rizzi. *A dissimilarity learning approach by evolutionary computation for faults recognition in smart grids*. In J. J. Merelo, A. Rosa, J. M. Cadenas, A. Dourado, K. Madani, and J. Filipe, editors, *Computational Intelligence*, volume 620 of *Studies in Computational Intelligence*, pages 113–130. Springer International Publishing, 2016. ISBN 978-3-319-26391-5. doi: 10.1007/978-3-319-26393-9\_8 [ENG].
- (Journal) F. Bianchi, E. De Santis, A. Rizzi, and A. Sadeghian. *Short-term electric load forecasting using echo state networks and PCA decomposition*. *Access, IEEE*, 3:1931–1943, 2015. ISSN 2169-3536. doi: 10.1109/ACCESS.2015.2485943 [ENG].
- (Journal) E De Santis, A Rizzi, A Sadeghian, *Hierarchical Genetic Optimization of a Fuzzy Logic System for Energy Flows Management in Microgrids*, *Applied Soft Computing*, Volume 60, 2017, Pages 135-149, ISSN 1568-4946, <http://dx.doi.org/10.1016/j.asoc.2017.05.059>
- (Conference) E. De Santis, A. Rizzi, A. Sadeghian, and F. Mascioli. *Genetic optimization of a fuzzy control system for energy flow management in micro-grids*. In *IFSA World Congress and NAFIPS Annual Meeting (IFSA/NAFIPS)*, 2013 Joint, pages 418–423, June 2013. doi: 10.1109/IFSA-NAFIPS.2013.6608437 [ENG].
- (Conference) E. De Santis, L. Livi, F. Mascioli, A. Sadeghian, and A. Rizzi. *Fault recognition in smart grids by a one-class classification approach*. In *Neural Networks (IJCNN)*, 2014 International Joint Conference on, pages 1949–1956, July 2014. doi: 10.1109/IJCNN.2014.6889668 [ENG].
- (Conference) E. D. Santis, G. Distanto, F. M. F. Mascioli, A. Sadeghian, and A. Rizzi. *Evolutionary optimization of a one-class classification system for faults recognition in smart grids*. In *Proceedings of the International Conference on Evolutionary Computation Theory and Applications (IJCCI 2014)*, pages 95–103, 2014. ISBN 978-989-758-052-9. doi:10.5220/0005124800950103 [ENG].
- (Conference) E. De Santis, A. Rizzi, A. Sadeghian, and F. Frattale Mascioli. *A learning intelligent system for fault detection in smart grid by a one-class classification approach*. In *Neural Networks (IJCNN)*, 2015 International Joint Conference on, pages 1–8, July 2015. doi: 10.1109/IJCNN.2015.7280756 [ENG].
- (Conference) De Santis, E., Greco, F., Pelagalli, F., *Social emotional data analysis. The map of Europe*. *SIS2017 –in Intermediate Scientific Meeting of the ITALIAN STATISTICAL SOCIETY Proceedings (June 28-30, 2017)* [ENG]
- (Conference) Leonori, S., De Santis, E., Rizzi, A., & Mascioli, F. F. (2016, November). *Multi objective optimization of a fuzzy logic controller for energy management in microgrids*. In *Evolutionary Computation (CEC), 2016 IEEE Congress on (pp. 319-326)*. IEEE.
- (Conference) Leonori, S., De Santis, E., Rizzi, A., & Mascioli, F. F. *Optimization of a microgrid energy management system based on a Fuzzy Logic Controller*. *Industrial Electronics Society, IECON 2016-42nd*, 2016. DOI: 10.1109/IECON.2016.7793965
- (Journal) De Santis, E., Rizzi, A., and Sadeghian, A. (2017). *A cluster-based dissimilarity learning approach for localized fault classification in Smart Grids*. *Swarm and Evolutionary Computation*, Elsevier, 2017 [ENG].
- (Journal) De Santis, E., Sadeghian, A., & Rizzi, A. (2017). *A Smoothing Technique for the Multifractal Analysis of a Medium Voltage Feeders Electric Current*. *International Journal of Bifurcation and Chaos*, 27(14), 1750211., [ENG].
- (Conference) Giampieri, M., De Santis, E., Rizzi, A., & Mascioli, F. M. F. (2018, July). *A Supervised Classification System based on Evolutive Multi-Agent Clustering for Smart Grids Faults Prediction*. In *2018 International Joint Conference on Neural Networks (IJCNN)* (pp. 1-8). IEEE. [ENG].
- (Conference) De Santis, E., Martino, A., Rizzi, A., & Mascioli, F. M. F. (2018, July). *Dissimilarity Space Representations and Automatic Feature Selection for Protein Function Prediction*. In *2018 International Joint Conference on Neural Networks (IJCNN)* (pp. 1-8). IEEE. [ENG].
- (Conference) De Santis, E., Paschero, M., Rizzi, A., & Mascioli, F. M. F. (2018, July). *Evolutionary Optimization of an Affine Model for Vulnerability Characterization in Smart Grids*. In *2018 International Joint Conference on Neural Networks (IJCNN)* (pp. 1-8). IEEE. [ENG].
- (Conference) Giampieri, M., De Santis, E., Rizzi, A., & Mascioli, F. M. F. (2018, July). *A Supervised Classification System based on Evolutive Multi-Agent Clustering for Smart Grids Faults Prediction*. In *2018 International Joint Conference on Neural Networks (IJCNN)* (pp. 1-8). IEEE.
- (Conference) Martino, A., De Santis, E., Baldini, L., & Rizzi, A. (2019). *Calibration Techniques for Binary Classification Problems: A Comparative Analysis*. In *IJCCI* (pp. 487-495).
- (Journal) Martino, A., De Santis, E., Giuliani, A., & Rizzi, A. (2020). *Modelling and Recognition of Protein Contact Networks by Multiple Kernel Learning and Dissimilarity Representations*. *Entropy*, 22(7), 794.

- (Journal) De Santis, E., Martino, A., & Rizzi, A. (2020). An Infoveillance System for Detecting and Tracking Relevant Topics From Italian Tweets During the COVID-19 Event. *IEEE Access*, 8, 132527-132538.
- (Conference) Antonino Capillo., Enrico de Santis., Fabio Massimo Frattale Mascioli., and Antonello Rizzi. Mining m-grams by a granular computing approach for text classification. In Proceedings of the 12th International Joint Conference on Computational Intelligence - Volume 1: NCTA., pages 350–360. INSTICC, SciTePress, 2020. ISBN 978-989-758-475-6. doi: 10.5220/0010109803500360
- (Conference) Enrico de Santis., Antonino Capillo., Fabio Massimo Frattale Mascioli., and Antonello Rizzi. Classification and calibration techniques in predictive maintenance: A comparison between gmm and a custom one-class classifier. In Proceedings of the 12th International Joint Conference on Computational Intelligence - Volume 1: CI4EMS., pages 503–511. INSTICC, SciTePress, 2020. ISBN 978-989-758-475-6. doi: 10.5220/0010109905030511.
- (Position paper) F. M. Bianchi, E. De Santis, P. Naraei, H. Montazeri, and A. Sadeghian. *Position paper: a general framework for applying machine learning techniques in operating room*. Arxiv preprint,

#### - International conferences

### Additional information

- 2013 IFSA World Congress NAFIPS Annual Meeting Edmonton, Canada June 24-28, 2013;
- 2014 IEEE World Congress on Computational Intelligence (IEEE WCCI 2014), Beijing, China, July 6-11, 2014;
- 2014 International Joint Conference on Computational Intelligence (IJCCI 2014), Rome, Italy, 22-24 October, 2014.
- 2015 The International Joint Conference on Neural Networks (IJCNN 2015), Killarney, Ireland, July 12 - 17, 2015.
- 2017 IEEE Congress on Evolutionary Computation 2017 Donostia - San Sebastián, Spain, June 5-8, 2017
- 2017 Intermediate Scientific Meeting of the ITALIAN STATISTICAL SOCIETY Florence June 28-30, 2017
- 2018 IEEE World Congress on Computational Intelligence (IEEE WCCI 2018), Rio de Janeiro, Brazil, July 8-13, 2018;

#### - Principal Talks

- "An AI strategy to increase performances in e-learning environment by Natural Language Processing", Brain Alliance Annual General Meeting, Toronto - York University, Febbraio 2017.
- "Computational Intelligence in Complex Systems with application to Smart Grids Environments", Master in "SMART CITIES AND COMMUNITIES: PLANNING AND MANAGEMENT OF THE CITY ORIENTED TO WELL-BEING", presso il Dipartimento di INGEGNERIA AERONAUTICA, ELETTRICA ED ENERGETICA (DIAAE), Università "Sapienza" di Roma, 2014.
- "Computational Intelligence in Complex Systems With Application in Smart Grid environment", seminar series organized by the Computer Science department of Engineering faculty at Ryerson University, Toronto, Canada, 2013.

**Annexes** N/A

*In compliance with the Italian legislative Decree no. 196 dated 30/06/2003, I hereby authorize you to use and process my personal details contained in this document.*

Rome, December 28, 2020