

Emanuele SANSONE

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SUMMARY

I'm passionate about solving the problem of general artificial intelligence and I think that an important step to achieve it is to solve the problem of data efficiency and robustness of current machine learning models. My research interests are related (but not limited) to the interplay between causal inference and unsupervised learning.

Besides research, I like the sports world, especially skiing. From 2007, I've been the coach of different local racing ski teams and hold several ski instructor courses. In 2011, I've obtained the diploma of ski master instructor, namely the highest professional Italian degree in alpine skiing. Before that, I've participated as an athlete to many international competitions.

WORK & PROFESSIONAL EXPERIENCE

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| 2018- | Research Scientist
<i>Huawei Technologies R&D</i>
Working in the area of deep generative models and causal inference. |
| 2018- | Reviewer
Serving as a reviewer for international journals in the area of machine learning and signal processing, such as IEEE Transactions of Neural Networks and Learning Systems and IEEE Transactions on Image Processing. |

ACADEMIC EXPERIENCE

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| 2016 | Teaching Assistant, Computer Vision (Code 140266)
<i>M.Sc. in Telecommunications Engineering, University of Trento, Italy</i>
Machine Learning for Computer Vision (introduction to statistical learning theory and neural networks). |
| 2015 | Teaching Assistant, Multimedia Networking (Code 140151)
<i>M.Sc. in Telecommunications Engineering, University of Trento, Italy</i>
Principles of video compression/coding (useful for transmission/storage of video files). |
| 2015-2016 | Research Intern
<i>LAMDA group, Nanjing University, China</i>
Advisor: Prof. Zhi-Hua Zhou.
I've studied semi-supervised learning as well as positive unlabeled learning. |

SPORT EXPERIENCE

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| 2011- | Ski master instructor
<i>Italy</i>
Holding several professional education and training courses for ski instructors and candidate ski instructors. This is the highest professional degree in alpine skiing (the total number of ski master instructors in Italy is around 200). |
| 2007- | Ski coach
<i>Italy</i>
Coach of young athletes (6-20 years old) in several racing ski teams: Ski Team Sopramonte (2007/2008), Sci Club Padova (2008/2009), Sci Club Panarotta (2009-2011), Ski Team Paganella (2013/2014), Campiglio Ski Team (2016/2017). |
| 2002-2007 | Ski athlete
<i>Italy</i>
See a sample list of records . |

EDUCATION

2013-2018	<p>Ph.D. <i>ICT doctoral school, University of Trento, Italy</i> Thesis: "Towards Uncovering the True Use of Unlabeled Data in Machine Learning" Advisor: Prof. Francesco G.B. De Natale. My dissertation consists of contributions in multiple areas of machine learning, including semi-supervised, positive unlabeled and unsupervised representation learning.</p>
2011-2012	<p>M.Sc. in TELECOMMUNICATIONS ENGINEERING University of Trento, Italy Thesis: "Multimodal Photo Galleries Synchronization" Advisor: Prof. Nicola Conci, Giulia Boato. 110/110 <i>summa cum laude</i> GPA: 28.82/30 Computer vision application for automatic synchronization of photo galleries from multiple users attending the same event (C++ language).</p>
2008-2010	<p>B.Sc. in TELECOMMUNICATIONS ENGINEERING University of Trento, Italy Thesis: "Master P-NET protocol implementation on PIC 32 architecture" Advisor: Prof. Dario Petri, Eng. Michele Corrà. Programming a master device in a network composed by different sensors and actuators. Implementation of P-NET protocol over a PIC 32 microcontroller (C language).</p>

AWARDS AND CERTIFICATES

SEP 2016	<p>Academic hardware grant award <i>Hong Kong, China</i> Provision of a NVIDIA Titan X GPU Organization: NVIDIA corporation</p>
JAN 2015	<p>Machine Learning Summer School <i>Austin, USA</i> Certificate of attendance Organization: University of Texas at Austin</p>
MAR 2012	<p>Merit award <i>Trento, Italy</i> Award assigned to distinguished students Organization: University of Trento</p>
NOV 2011	<p>Ski master instructor <i>Milan, Italy</i> Certificate Organization: FISI, CoScuMa</p>
SEP 2011	<p>Ski coach (3° level) <i>Milan, Italy</i> Certificate Organization: FISI, STF</p>
MAY 2007	<p>Ski instructor <i>Trento, Italy</i> Certificate</p>

Organization: [PAT](#)

PUBLICATIONS

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| 2019 | Coulomb Autoencoders
E. Sansone, H. T. Ali, S. Jiacheng
arXiv pre-print |
| 2018 | Towards Uncovering the True Use of Unlabeled Data in Machine Learning
E. Sansone
PhD Thesis |
| 2018 | Efficient Training for Positive Unlabeled Learning
E. Sansone, F.G.B De Natale, Z.H. Zhou
IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI) |
| 2017 | Training Feedforward Neural Networks with Standard Logistic Activations is Feasible
E. Sansone, F.G.B. De Natale
arXiv pre-print |
| 2017 | Automatic Synchronization of Multi-User Photo Galleries
E. Sansone, K. Apostolidis, N. Conci, G. Boato, V. Mezaris, F.G.B. De Natale
IEEE Transactions on Multimedia (TMM) |
| 2016 | Classtering: Joint Classification and Clustering with Mixture of Factor Analysers
E. Sansone, A. Passerini, F.G.B. De Natale
European Conference on Artificial Intelligence (ECAI) |
| 2014 | Synchronizing Multi-User Photo Galleries with MRF
E. Sansone, G. Boato, MS. Dao
MediaEval Workshop |
| 2013 | Event Clustering and Classification from Social Media: Watershed-based and Kernel Methods
TV. Nguyen, MS. Dao, R. Mattivi, E. Sansone, F.G.B. De Natale, G. Boato
MediaEval Workshop |

LANGUAGES

ITALIAN:	Mothertongue
ENGLISH:	Fluent (C2)
GERMAN:	Fluent (B2)

INTERESTS

VOLUNTEERING	From 2012 to 2014, I've participated to a no-profit association, GiPro , composed by young representatives of different sectors (e.g. ski instructors, engineers, lawyers, psychologists). The goal of the association is to promote the professional categories on the territory and stimulate the inter-professional collaboration of young people.
OTHERS	I like playing soccer.

REFERENCES

UPON REQUEST