

# Emanuele SANSONE

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## SUMMARY

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I'm passionate in understanding the learning principles governing human intelligence and believe that human learning is mainly an unsupervised process. That's why, most of my research focuses on unsupervised learning.

During my doctoral studies, I've focused on analyzing how to exploit unlabeled data in machine learning, providing answers to the following research questions: (i) Is it possible to learn in the context of limited data, (ii) to scale existing algorithms for positive-unlabeled learning, (iii) to convert the traditional mini-max game of generative adversarial networks into a single minimization problem?

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.

## EDUCATION

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2013-2018	<p><b>Ph.D.</b> <i>ICT doctoral school, University of Trento, Italy</i> Thesis: "<a href="#">Towards Uncovering the True Use of Unlabeled Data in Machine Learning</a>" Advisor: Prof. Francesco G.B. De Natale. My dissertation consists of contributions from multiple areas of machine learning, including semi-supervised, positive unlabeled and unsupervised representation learning.</p>
2011-2012	<p><b>M.Sc. in TELECOMMUNICATIONS ENGINEERING</b> 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>B.Sc. in TELECOMMUNICATIONS ENGINEERING</b> 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>

## ACADEMIC EXPERIENCE

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2016	<p>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).</p>
2015	<p>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).</p>
2015-2016	<p>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.</p>

## SPORT EXPERIENCE

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2011-	<p>Ski master instructor</p> <p><i>Italy</i></p> <p>Holding several professional education and training courses for ski instructors and candidate ski instructors. This is the highest professional degree in alpine skiing (<a href="#">the total number of ski master instructors in Italy is around 200</a>).</p>
2007-	<p>Ski coach</p> <p><i>Italy</i></p> <p>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).</p>
2002-2007	<p>Ski athlete</p> <p><i>Italy</i></p> <p>See a <a href="#">sample list of records</a>.</p>

## AWARDS AND CERTIFICATES

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

## PUBLICATIONS

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2018	<a href="#">Plummer Autoencoders</a> E. Sansone, Q. T. Phan, F.G.B. De Natale In review Neural Information and Processing Systems (NIPS)
2017	<a href="#">Training Feedforward Neural Networks with Standard Logistic Activations is Feasible</a> E. Sansone, F.G.B. De Natale arXiv pre-print
2017	<a href="#">Automatic Synchronization of Multi-User Photo Galleries</a> E. Sansone, K. Apostolidis, N. Conci, G. Boato, V. Mezaris, F.G.B. De Natale IEEE Transactions on Multimedia (TMM)
2017	<a href="#">Efficient Training for Positive Unlabeled Learning</a> E. Sansone, F.G.B. De Natale, Z.H. Zhou In review (3rd round) IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
2016	<a href="#">Classtering: Joint Classification and Clustering with Mixture of Factor Analysers</a> E. Sansone, A. Passerini, F.G.B. De Natale European Conference on Artificial Intelligence (ECAI)
2014	<a href="#">Synchronizing Multi-User Photo Galleries with MRF</a> E. Sansone, G. Boato, MS. Dao MediaEval Workshop
2013	<a href="#">Event Clustering and Classification from Social Media: Watershed-based and Kernel Methods</a> TV. Nguyen, MS. Dao, R. Mattivi, E. Sansone, F.G.B. De Natale, G. Boato MediaEval Workshop

## LANGUAGES

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

## INTERESTS

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VOLUNTEERING	From 2012 to 2014, I've participated to a no-profit association, <a href="#">GiPro</a> , 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

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## UPON REQUEST