Emanuele SANSONE

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SUMMARY

I'm passionate in understanding the principles of learning, 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 learn better unsupervised generative models?

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

2013-2018

Ph.D.
ICT doctoral school, University of Trento, Italy

Thesis: "Towards Uncovering the True Use of Unlabeled Data in Machine Learning"

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.

2011-2012

M.Sc. in TELECOMMUNICATIONS ENGINEERING
University of Trento, Italy

Thesis: "Multimodal Photo Galleries Synchronization"

Advisor: Prof. Nicola Conci, Giulia Boato.

110/110 *summa cum laude* | GPA: 28.82/30

Computer vision application for automatic synchronization of photo galleries from multiple users attending the same event (C++ language).

2008-2010

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).

ACADEMIC EXPERIENCE

2016

Teaching Assistant, Computer Vision (Code 140266)
M.Sc. in Telecommunications Engineering, University of Trento, Italy

Machine Learning for Computer Vision (introduction to statistical learning theory and neural networks).

2015

Teaching Assistant, Multimedia Networking (Code 140151)
M.Sc. in Telecommunications Engineering, University of Trento, Italy

Principles of video compression/coding (useful for transmission/storage of video files).

2015-2016

Research Intern
LAMDA group, Nanjing University, China

Advisor: Prof. Zhi-Hua Zhou.

I've studied semi-supervised learning as well as positive unlabeled learning.

Sport Experience

2011-	**Ski master instructor**
	Italy
	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**
	Italy
	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**
	Italy
	See a sample list of records.

Awards and Certificates

Sep 2016	**Academic hardware grant award**
	Hong Kong, China
	Provision of a NVIDIA Titan X GPU
	Organization: NVIDIA corporation
Jan 2015	**Machine Learning Summer School**
	Austin, USA
	Certificate of attendance
	Organization: University of Texas at Austin
Mar 2012	**Merit award**
	Trento, Italy
	Award assigned to distinguished students
	Organization: University of Trento
Nov 2011	**Ski master instructor**
	Milan, Italy
	Certificate
	Organization: FISI, CoScuMa
Sep 2011	**Ski coach (3° level)**
	Milan, Italy
	Certificate
	Organization: FISI, STF
May 2007	**Ski instructor**
	Trento, Italy
	Certificate
	Organization: PAT

Publications

2018	**Plummer Autoencoders** E. Sansone, Q. T. Phan, F.G.B. De Natale arXiv pre-print
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