

Emanuele Sansone

Email: e.sansone@hotmail.it Website: <http://emsansone.github.io/> GitHub: <https://github.com/emsansone>

Summary

I'm a researcher with background in machine learning. Previously, I was working on statistical machine learning, focusing on understanding how to exploit unlabeled data in the context of semi-supervised, positive unlabeled and unsupervised learning (i.e. deep generative models and representation learning). My current research interests lie at the intersection between unsupervised learning and logic. Specifically, I'm interested in devising algorithms which can discover interpretable theories (in terms of logic programs) directly from noisy and ambiguous raw data. I have excellent organizational, communication and presentation skills developed over different teaching and supervising experiences at university as teaching assistant and in sports as ski coach and ski master instructor.

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.</p> |
| 2011-2012 | <p>M.Sc. in Telecommunications Engineering (magna cum laude) University of Trento, Italy Thesis: "Multimodal Photo Galleries Synchronization" Advisor: Prof. Nicola Conci, Giulia Boato.</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.</p> |

Work and Research Experience

| | |
|--------------|--|
| 2020-to date | <p>PostDoc Researcher <i>KU Leuven, Leuven, Belgium</i> Advisor: Luc de Raedt.</p> |
| 2018-2020 | <p>Research Scientist <i>Huawei Technologies R&D, London, UK</i> Conducting research in the area of deep generative models and self-supervised learning. Supervising students on applied machine learning: Yinbai Li (Bachelor student in Mathematics at University of Cambridge), Xingyu Jin (Master student in Computer Science at University of Edinburgh).</p> |
| 2015-2016 | <p>Research Internship <i>LAMDA group, Nanjing University, China</i> Advisor: Prof. Zhi-Hua Zhou. Working on positive unlabeled learning.</p> |

Didactic Activities

| | |
|------|---|
| 2020 | <p>Teaching Assistant, Machine Learning and Inductive Inference (B-KUL-H02C1a-2021) <i>M. Sc. in Computer Science, KU Leuven, Belgium</i></p> |
| 2016 | <p>Teaching Assistant, Computer Vision (Code 140266) <i>M.Sc. in Telecommunications Engineering, University of Trento, Italy</i></p> |
| 2015 | <p>Teaching Assistant, Multimedia Networking (Code 140151) <i>M.Sc. in Telecommunications Engineering, University of Trento, Italy</i></p> |

Professional Services

Program Committee Member: ECML/PKDD 2021.

Conference Reviewer: ICLR 2021-2022, NeurIPS 2021, AISTATS 2022.

Journal Reviewer: IEEE Transactions on Neural Networks and Learning Systems, IEEE Transactions on Image Processing, Machine Learning (Springer).

Publications & Pre-prints

| | |
|------------|---|
| arXiv 2021 | LSB: Local Self-Balancing MCMC in Discrete Spaces E. Sansone |
| arXiv 2021 | Leveraging Hidden Structure in Self-Supervised Learning E. Sansone |
| ECAI 2020 | Coulomb Autoencoders E. Sansone, H. T. Ali, J. Sun |
| PhD 2018 | Towards Uncovering the True Use of Unlabeled Data in Machine Learning E. Sansone |
| PAMI 2018 | Efficient Training for Positive Unlabeled Learning E. Sansone, F.G.B De Natale, Z.H. Zhou |
| arXiv 2017 | Training Feedforward Neural Networks with Standard Logistic Activations is Feasible E. Sansone, F.G.B. De Natale |
| TMM 2017 | Automatic Synchronization of Multi-User Photo Galleries E. Sansone, K. Apostolidis, N. Conci, G. Boato, V. Mezaris, F.G.B. De Natale |
| ECAI 2016 | Classtering: Joint Classification and Clustering with Mixture of Factor Analysers E. Sansone, A. Passerini, F.G.B. De Natale |

Invited Talks & Seminars

| | |
|------|---|
| 2019 | Coulomb Autoencoders Invited Talk - Symposium on Deep Generative Models, British Computer Society, London, UK) |
| 2017 | Generative Adversarial Networks Seminar - Fondazione Bruno Kessler, Trento, Italy) |

Awards

| | |
|------|---|
| 2021 | Outstanding Reviewer Award ICLR 2021 |
| 2016 | Academic Hardware Grant Award, NVIDIA Two Awards consisting of a NVIDIA Titan X GPU each |
| 2012 | Merit Award, University of Trento <i>Trento, Italy</i> |

Learning Certificates

Online Courses (Coursera): [Neural Networks for Machine Learning](#) 2017, [Algorithms Specialization](#) 2020

Summer Schools: [Machine Learning Summer School](#) at University of Texas, Austin 2015, [Full Stack Deep Learning Bootcamp](#) at University of California, Berkeley 2018

Sport Professional Experience

| | |
|--------------|---|
| 2011-to date | <p>Ski master instructor</p> <p><i>Italy</i></p> <p>This is the highest professional degree in alpine skiing (the total number of ski master instructors in Italy is around 200), which can be achieved by demonstrating excellent skiing capabilities as well as strong organizational, didactical and methodological skills used when coaching.</p> <p>I hold several professional education and training courses for ski instructors and candidate ski instructors. The following is a list of people I prepared to become ski instructors: Alessandro Berlanda, Camilla Berlanda, Martina Kerschbaumer, Davide Raineri, Valentina Zampedri, Erman Baldessari, Federico Tonezzer, Martina Longobardi, Chiara Villotti, Stefano Gonzo, Francesca Cella, Samuel Piffer, Teo Valle, Martino Santoni, Emma Santoni, Thomas Corradino, Silvia Zeni, Marco Faccenda.</p> |
| 2007-2017 | <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>Participating in many international competitions. See a sample list of records.</p> |

Sport Certificates

| | |
|------|---|
| 2011 | <p>Ski Master Instructor</p> <p><i>Milan, Italy</i></p> <p>Certificate</p> <p>Organization: FISI, CoScuMa</p> |
| 2011 | <p>Ski Coach (3° level)</p> <p><i>Milan, Italy</i></p> <p>Certificate</p> <p>Organization: FISI, STF</p> |
| 2007 | <p>Ski Instructor</p> <p><i>Trento, Italy</i></p> <p>Certificate</p> <p>Organization: PAT</p> |