

Curriculum Vitae

Alessandro Torcinovich

Thursday 15th February, 2024

Current Affiliations

ETH
Department of Computer Science
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Ca' Foscari University of Venice
Department of Environmental Sciences,
Computer Science and Statistics
Via Torino 155, 30100 Mestre-Venice, Italy

Biography and Research Interests

Alessandro Torcinovich is an Italian postdoctoral research fellow in Computer Science at ETH Zurich. He works for the Institute of Machine Learning in the Information Science and Engineering Lab. He has held a research visiting position at the Chalmers University of Technology in Sweden. In 2021, he obtained a Ph.D. in Computer Science, afterwards, he worked as a postdoctoral fellow taking part in a PRIN project related to explainable machine learning. In the past, he developed a CV-based monitoring system as a company intern. He has also organized a Copernicus Hackathon at Vicenza and he has won the online Copernicus Hackathon of Bari with his team, by proposing an AI-powered irrigation planning app. More recently, he has collaborated with the European Space Agency as a research fellow for anomaly detection of antenna signals. His teaching activity includes a course in machine learning at the University of Venice and several machine learning seminars for SMBs, collaborating with the Innovation Hub at Vicenza.

His main research fields are Machine Learning, Computer Vision and Game Theory. He is now working on information-theoretic validation and robustness assessment procedures of machine learning models.

Education

July 2021

Ph.D. in Computer Science
Doctoral Schools in: Computer Science. Cicle XXXIII (33)
Ca' Foscari University of Venice, Italy
Title: Using Contextual Information in Weakly Supervised Learning.
Supervisor: Prof. Marcello Pelillo

November 2016

Master Degree (summa cum laude & special mention) in Computer Science, Ca' Foscari University of Venice, Italy
Title: A Computer Vision System for Monitoring Ice-Creams Freezers.
Supervisor: Prof. Marcello Pelillo

July 2014

Bachelor degree (summa cum laude) in Computer Science, Ca' Foscari University of Venice, Italy
Title: Lo spartito digitale - rappresentazione musicale e gestualità di interazione.
Supervisor: Prof. Augusto Celentano

Summer schools

July 2020

ACDL Advanced Course on Data Science and Machine Learning. Siena, Italy

June 2019

AI-DLDA International Summer School on Artificial Intelligence. Udine, Italy

Professional Experiences

Academic research positions

February 2024 –

Expert (cultore) in Computer Science, DAIS Ca' Foscari University of Venice, Italy

October 2022 – February 2024

Postdoctoral research fellow, D-INFK ETH, Zurich, Switzerland

June 2021 – May 2022

Postdoctoral research fellow, DAIS Ca' Foscari University of Venice, Italy

November 2020 – April 2021

Research fellow, DAIS Ca' Foscari University of Venice, Italy

September 2017 – July 2021

Ph.D. student, DAIS Ca' Foscari University of Venice, Italy

Visiting positions

August 2019 - October 2019

Visiting researcher: Chalmers University of Technology (Chalmers), Dept. of Computer Science and Engineering - Data Science and AI Division. Gothenburg, Sweden

Advisor: prof. Morteza Haghir Chehreghani

Objective: contextual information learning and outlier detection.

Entrepreneurship and Industrial Projects

June 2020 - July 2021

satis.farm: co-founder and CTO of *satis.farm*, a startup on the integration of earth observation and machine learning technologies for smart irrigation planning activities.

February 2018 - July 2018

venetoricerche s.r.l.: Development of a dynamic front-end for car sales reporting.

March 2016 - July 2016

Prosa s.r.l.: Implementation of the main core of an image processing software for a commercial ice-cream freezer monitoring system.

Teaching

Adjunct professor

A.Y. 2021 – 2022 (30h lectures, examinations)

Professor on Artificial Intelligence: Machine Learning & Pattern Recognition (30h lectures, 9h examinations). Ca' Foscari University of Venice

Teaching assistant

A.Y. 2024

TA on Fundamentals of Web Engineering. ETH Zurich

A.Y. 2023

TA on Interactive Machine Learning - Visualization and Explainability. ETH Zurich

A.Y. 2020 – 2021

Tutor on Probability and Statistics (30h lectures). Ca' Foscari University of Venice

A.Y. 2018 – 2019

Tutor on Principles of Mathematics (30h lectures). Ca' Foscari University of Venice

A.Y. 2018 – 2019

Tutor on Calculus (60h lectures, 30h online). Ca' Foscari University of Venice

A.Y. 2017 – 2018

Tutor on Principles of Mathematics (30h lectures). Ca' Foscari University of Venice

A.Y. 2017 – 2018

Tutor on Calculus (60h lectures, 30h online). Ca' Foscari University of Venice

A.Y. 2016 – 2017

Tutor on Linear Algebra in favor of a student affected by LD (30h lectures). Ca' Foscari University of Venice

Non academic courses

2021 – 2022

Organizer, and speaker at the Digital Workshops on Machine Learning, Ca' Foscari University of Venice & Digital Innovation Hub, Venice, Italy

2019 – 2020

Organizer, and speaker at the ML crash course in preparation of the Copernicus Hackathon of Vicenza., Ca' Foscari University of Venice & Digital Innovation Hub, Venice, Italy

Professional Activities

Conferences and workshop organization

2024 *Program Committee Member* ECAI 2024: European Conference of AI, Santiago de Compostela

2024 *Program Committee Member* SDS 2024: IEEE Swiss Conference on Data Science, Zurich, Switzerland

2023 *Program Committee Member* SDS 2023: IEEE Swiss Conference on Data Science, Zurich, Switzerland

2017 *Volunteer* ICCV 2017: 11th International Conference on Computer Vision, Venice, Italy

Reviewing Activity

International conferences

- IEEE Conference on Computer Vision and Pattern Recognition (CVPR): 2024, 2020, 2019
- IEEE International Conference on Computer Vision (ICCV): 2021, 2019
- IEEE European Conference on Computer Vision (ECCV): 2022
- British Machine Vision Conference (BMVC): 2019

Journals

- Computer Communications (CoCo) 2020
- Wireless Communications and Mobile Computing 2021
- International Conference on Image Analysis and Processing (ICIAP) 2021, 2022
- Transactions on Information Forensics and Security 2024

Research Projects

March 2022 – May 2022

DC-ren: Drug combinations for rewriting trajectories of renal pathologies in type II diabetes.

Role: Postdoctoral Research Fellow

June 2021 – May 2022

RexLearn: Reliable and Explainable Adversarial Machine Learning.

Role: Postdoctoral Research Fellow

November 2020 – April 2021

European Space Agency. Artificial Intelligence Assisted Performance and Anomaly Detection.

Role: subcontractor

October 2015 – March 2018

SAMSUNG Global Research Outreach (GRO).

Awards

2020 Winner of the Copernicus Hackathon of Bari

2020 4th place at the Copernicus Hackathon of Vicenza

2019 Merit-based scholarship at the AI-DLDA Summer School

2017 Ca' Foscari University Best Computer Science Master's Theses A.Y. 2016/2017

Academic Supervision

Master thesis

9. G. Costa, *Implicit Neural Representation for CT Scan Reconstruction (TBD)* co-supervision with prof. J. M. Buhmann. & prof. M. Pelillo. A.Y. 2024 (TBD)
8. V. J. Rodriguez, *Posterior Agreement for Model Robustness Assessment (TBD)* co-supervision with prof. J. M. Buhmann. A.Y. 2024 (TBD)
7. Giosuè Zannini, *A Self-Supervised Deep Metric Learning Approach for Jigsaw Puzzle Reconstruction* co-supervision with prof. M. Pelillo. A.Y. 2024 (TBD)
6. I. Miani, *Machine Learning Algorithm for the Scansion of Old English and Old Saxon Poetry* with prof. G. Lebani & prof. M. Buzzoni. A.Y. 2023
5. M. Zonelli, *Using residual neural networks for Jigsaw Puzzle solving*, co-supervision with prof. M. Pelillo. A.Y. 2022
4. M. Stefani, *An object detection system for automatic document reorientation and identification*, co-supervision with prof. M. Pelillo. A.Y. 2020
3. A. E. Cinà, *On the Robustness of Clustering Algorithms to Adversarial Attacks*, co-supervision with prof. M. Pelillo. A.Y. 2020
2. C. Simeoni, *A Machine Learning-based approach for the assessment of water quality variation in the Venice Lagoon*, supervisor prof. Andrea Critto. A.Y. 2019
1. P. Urbani *Combining Deep Learning and Game Theory for Music Genre Classification*, co-supervision with prof. M. Pelillo. A.Y. 2017

Bachelor thesis

2. V. K. Yerramsetti, *ATIA: Automated Tongue Image Analysis for autoimmune disease detection with supervised machine learning models*, co-supervision with prof. Elena Marchiori. A.Y. 2022
1. G. Sech, *Relaxation Labeling, implementazione ed esperimenti in PyTorch*, co-supervision with prof. M. Pelillo. & prof. Sebastiano Vascon. A.Y. 2020

Academic References

- International
 - prof. Joachim Maximilian Buhmann
ETH, Zurich, Switzerland
 - prof. Morteza Haghiri Chehreghani
Chalmers University of Technology, Gothenburg, Sweden
 - prof. Elena Marchiori
Radboud University Nijmegen, Nijmegen, Netherlands
 - prof. Ohad Ben-Shahar
Ben-Gurion University of the Negev, Be'er Sheva, Israel
- National (Italian)
 - prof. Marcello Pelillo, (*Ph. D & Master's thesis supervisor*)
Ca' Foscari University of Venice
 - prof. Augusto Celentano (*Bachelor thesis supervisor*)
Ca' Foscari University of Venice
 - prof. Flavio Sartoretto
Ca' Foscari University of Venice
 - prof. Stefano Calzavara
Ca' Foscari University of Venice
 - prof. Andrea Marin
Ca' Foscari University of Venice
 - prof. Claudio Lucchese
Ca' Foscari University of Venice

Bibliometric Indexes (last updated: Thursday 15th February, 2024)

Google Scholar

- Documents = 14
- Citations = 169
- *h*-index = 6

Scopus

- Documents = 10
- Citations: 74
- *h*-index = 5

Web of Science

- Documents = 6
- Citations: 38
- *h*-index = 4

Publications

International journals (peer reviewed)

- J2 I. Elezi, J. Seidenschwarz, L. Wagner, S. Vascon, **A. Torcinovich**, M. Pelillo and L. Leal-Taixé. *The Group Loss++: A deeper look into group loss for deep metric learning*, Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2022.
- J1 A. E. Cinà, **A. Torcinovich**, M. Pelillo, A Black-Box Adversarial Attack for Poisoning Clustering, Pattern Recognition (PR), 2021.

International conferences (peer reviewed)

*= equal contribution, authors listed in alphabetical order.

- C8 S. Ferro, **A. Torcinovich**, A. Traviglia, M. Pelillo, *Exploiting Context in Handwriting Recognition Using Trainable Relaxation Labeling*, International Conference on Pattern Recognition Applications and Methods (ICPRAM), 2023.
- C7 B. Vardi, **A. Torcinovich**, M. Khoroshiltseva, M. Pelillo, O. Ben-Shahar, *Multi-Phase Relaxation Labeling for Square Jigsaw Puzzle Solving*, International Conference on Computer Vision Theory and Applications (VISAPP), 2023.
- C6 M. Khoroshiltseva, B. Vardi, **A. Torcinovich**, A. Traviglia, O. Ben-Shahar, M. Pelillo, *Jigsaw Puzzle Solving As A Consistent Labeling Problem*, International Conference on Computer Analysis of Images and Patterns (ICIP), 2021.
- C5 I. Elezi, S. Vascon, **A. Torcinovich**, M. Pelillo and Laura Leal-Taixé, *The Group Loss for Deep Metric Learning*, European Conference on Computer Vision (ECCV), 2020.
- C4 S. Vascon, S. Aslan, **A. Torcinovich**, T. van Laarhoven, E. Marchiori, and M. Pelillo. *Unsupervised Domain Adaptation using Graph Transduction Games*, IEEE International Joint Conference on Neural Networks (IJCNN), 2019. **Oral presentation.**
- C3 I. Elezi*, S. Vascon*, **A. Torcinovich***, and M. Pelillo, *Transductive Label Augmentation for Improved Deep Network Learning*, International Conference on Pattern Recognition (ICPR), 2018.
- C2 M. Fiorucci, **A. Torcinovich**, M. Curado, F. Escolano and M. Pelillo, *On The Interplay Between Strong Regularity and Graph Densification*, International Workshop on Graph-Based Representations in Pattern Recognition (GbR), 2017.
- C1 **A. Torcinovich**, M. Fratton, M. Pelillo, A. Pravato, A. Roncato, *A Computer Vision System For Monitoring Ice-Creams Freezers*, International Conference on Image Analysis and Processing (ICIAP), 2017.

Abstracts (peer reviewed)

A1 I. Miani, M. Buzzoni, G. Lebani, **A. Torcinovich**, *Machine Learning Algorithm for the Scansion of Old Saxon Poetry*, Associazione Per l'Informatica Umanistica e la Cultura Digitale (AIUCD), 2023.

Languages

Italian - Mother Tongue

English - B2 (C1 - Technical)

Japanese - N2 (\approx A2/B1)

French - Base