Emanuele Ghelfi

Curriculum Vitae

Overview

I received the M.Sc. Degree in Computer Science and Engineering at Politecnico di Milano with 110L/110 in December 2018. In particular I followed the Artificial Intelligence track. The AI track includes courses like Game Theory, Machine Learning, Robotics, Image Analysis and Computer Vision, Autonomous Agent and MultiAgent Systems and Natural Language Processing.
My master thesis is located in the Machine Learning field, and more precisely in the Reinforcement Learning field.

Education

2016 – 2018 **M.Sc. Computer Science and Engineering**, *Politecnico di Milano*, Artificial Intelligence Track, *110L/110*.
Thesis: "Reinforcement Learning in Configurable Environments: an information theoretic approach" (accepted at ICML 2019). Supervisors: Marcello Restelli, Alberto Maria Metelli.
- Thesis: politesi.polimi.it/handle/10589/144736
- Code: github.com/albertometelli/remps
- Slides: slideshare.net/EmanueleGhelfi/reinforcement-learning-in-configurable-environments

2013 – 2016 **Bachelor Degree in Computer Science and Engineering**, *Politecnico di Milano*, Cremona, *110L/110L*.

2008 – 2013 **Scientific High School Diploma**, *Liceo Scientifico Tecnologico A. Berenini*, Fidenza, *100/100*.

Experience

2021 – **Senior Algorithm Engineer**, VisLab, Ambarella, Parma.

2020 – 2021 **Machine Learning and Computer Vision Engineer**, Deep Vision Consulting, Modena.

2018 – 2020 **Machine Learning and Computer Vision Engineer**, Zuru Tech Italy, Modena.

Publications

28-06-2019 **A Survey on GANs for Anomaly Detection.** arXiv e-print. arxiv.org/abs/1906.11632.

27-06-2019 **Adversarial Pixel-Level Generation of Semantic Images.** arXiv e-print. arxiv.org/abs/1906.12195.

01-05-2019 **Reinforcement Learning in Configurable Continuous Environments.** Proceedings of the 36th International Conference on Machine Learning (ICML 2019). proceedings.mlr.press/v97/metelli19a.html.

Talks

02-09-2019 **Deep Diving into GANs: From Theory to Production with TensorFlow 2.0.** EuroSciPy 2019, Bilbao, Spain.
- EuroSciPy: pretalx.com/euroscipy-2019/talk/Q79NND/
- Github: github.com/zurutech/gans-from-theory-to-production
- Slides: slideshare.net/EmanueleGhelfi/euroscipy-2019-gans-theory-and-applications

04-05-2019 **Deep Diving Into GANs: From Theory To Production.** PyConX 2019, Florence, Italy.
- PyConX: pycon.it/conference/talks/deep-diving-into-gans-form-theory-to-production
- Github: github.com/zurutech/gans-from-theory-to-production
- Slides: slideshare.net/EmanueleGhelfi/gan-theory-and-applications-143737572

Awards

2013 Scholarship "Percorsi di Eccellenza" during Bachelor Degree at Politecnico di Milano. Scholarship for worthy students.

Projects

2018 **Learning to Run**, *Deep Learning Project*.
Topics: Deep Reinforcement Learning.
- Code: github.com/MultiBeerBandits/learning-to-run
- Video: youtube.com/watch?v=HVOrhxypOGg
- Slides: slideshare.net/EmanueleGhelfi/learning-to-run-138950609

2018 **Computer Vision for Computer Art. A pencil writing on a virtual plane**, *Image Analysis and Computer Vision Project*.
Topics: Image Analysis, Feature Extraction, Tracking, Camera Calibration, 3D reconstruction.
- Code: github.com/EmilianoGagliardiEmanueleGhelfi/inkless-painting
- Video: youtube.com/watch?v=U7XAzXeBx-U

2017 2018 **Recommender System Challenge @ Polimi: Music Recommendation**, *Recommender Systems Project*.
Topics: Machine Learning, Recommender System, Personalized Recommendation.
- Code: github.com/MultiBeerBandits/recsys_challenge_2017
- Slides: slideshare.net/EmanueleGhelfi/recommender-system-challenge

2017 **CNN Quantization - Performance Evaluation**, *Advanced Computer Architecture Project*.
Topics: Convolutional Neural Networks, Quantization, Performance, Cache, Tensorflow, Caffe.
- Code: github.com/EmilianoGagliardiEmanueleGhelfi/CNN-compression-performance
- Slides: slideshare.net/EmanueleGhelfi/cnn-quantization

Competences

Programming Languages.
- Python
- C++
- Matlab
- C #

Robotics.
- SLAM
- ROS (Robot Operating System)
- Gazebo (Simulation Environment)

Machine Learning Frameworks.
- Tensorflow
- Keras
- Caffe (and Ristretto Plugin)

Languages

Italian Mother tongue

English Intermediate *level B2 with TOEIC certification (475 Listening + 470 Reading = 945/990)*

Privacy

In compliance with the Italian legislative Decree no. 196 dated 30/06/2003, I hereby authorize you to use and process my personal details contained in this document.