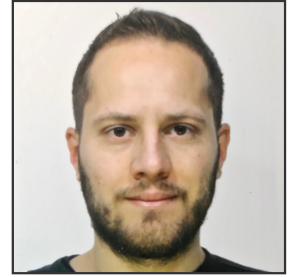# Antonio Pio Ricciardi

COMPUTER SCIENCE STUDENT

Rome, IT

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Education

Master's Degree student in Computer Science, at La Sapienza, Rome. Studies cover a broad variety of fields in Computer Science, with a special focus Machine Learning and Artificial Intelligence.

La Sapienza   *Rome, IT*
MASTER DEGREE IN COMPUTER SCIENCE - TAUGHT IN ENGLISH   *2017 - Present*

La Sapienza   *Rome, IT*
BACHELOR IN COMPUTER SCIENCE   *2013 - 2017*

ITIS Di Maggio   *San Giovanni Rotondo, IT*
HIGH SCHOOL DIPLOMA IN ELECTRICAL ENGINEERING   *2007 - 2012*

Skills

Competences	Machine Learning, Artificial Intelligence, Deep Learning, Algorithms, Tensorflow Distributed Systems, Parallel Computing, SQL, Git, LaTeX
Programming Languages	Python, Java, Matlab, C#, C++, C
Spoken Languages	Italian (Native Language), English (Fluent)

Projects

Neural Embeddings Interpretability - In progress

MASTER DEGREE THESIS   *Present*

Currently (July 2019) in the study phase. The objective is to understand and provide tools to better interpret Neural Networks, particularly neural embeddings generated by these methods.

Self Driving Car in Unity

COMPUTER VISION COURSE   *2019*

This project is realized with Unity, a 3D development platform. The objective was to teach a car to stay on a track, by steering in a 3D simulated world. Cameras are placed on top of the car and captured images are analysed by a Convolutional Neural Network. A classifier predicts the steering angle accordingly to the features coming from the CNN. This is a Supervised Task.

Reinforcement Learning Car in Unity

MACHINE LEARNING COURSE   *2019*

This project is realized with Unity, a 3D development platform. In a walls-bounded track and by only using distance sensors, a car has to keep going without crashing into walls. Reinforcement Learning is used.

Natural Input Interfaces for a Multimodal Desktop Environment

MULTIMODAL INTERACTION COURSE   *2019*

Provide an alternative way to control a desktop environment, by using a gaze-controlled pointer and voice commands for other interactions (such as *Open*, *Close*, navigating through pages ...). Gaze is recorded with a common webcam, while user's voice is processed with the Speech-to-Text API by Google.

Question Answering Chatbot

BACHELOR DEGREE THESIS   *2017*

A chatbot that used a shallow level of Machine Learning to classify questions and then Stanford NLP Parser and BabelNet to answer them. By using Naive Bayes, the bot was trained to recognize all kinds of WH-Questions. Then, by performing phrase analysis with the Stanford NLP Parser, core information about the questions was extracted. BabelNet then was used to retrieve the correct answer to the question.

Pensiero Profondo

PROGRAMMING METHODOLOGIES COURSE   *2014*

Question Answering system of movies, built on top of the Freebase knogledge base (https://www.freebase.com/). The project was realized by performing queries over the database and then linking them to question types to provide per-type answers. This project was a part of a programming course, during my Bachelor.

Courses - Master Degree

Listed here are some of the most interesting courses for me.

Machine Learning

2018

Introduction to Machine Learning. Analysis, paradigms and applications of various ML algorithms (Decision Trees, Neural Networks, Deep Learning, SVMs, Naive Bayes, Ensemble and Reinforcement Learning).

Natural Language Processing

2018

The Natural Language Processing course introduces a field of Artificial Intelligence which deals with the automatic processing of natural language. Theoretical and practical fundamentals of how to process natural language automatically at the different levels of morphology, part-of-speech tagging, syntax, semantics, discourse and dialogue are treated. The completion of three homework were required to pass this course. They were about *generating Word Embeddings*, *Word Sense Disambiguation* and *Semantic Role Labeling*

Distributed Systems

2018

Introduction to the theory of distributed systems, to study impact that this theory has to real world systems like p2p systems, bit-coin and the other crypto-coins, TOR, Akamai, the Google file system, content delivery networks, and so on.

Big Data Computing

2018

Fundamental algorithmic and programming issues posed by big-data computing, tackling some major data mining problems on a variety of computational models used for managing massive information structures. This course treated algorithm design techniques and technological aspects of modern computing platforms, with emphasis on MapReduce as a programming model for distributed data mining on large clusters of computers, data streaming techniques for mining on-the-fly huge and rapidly changing streams of data, external memory algorithms for processing data stored on slow secondary memories.

Biometric Systems

2018

Study and use of methods to detect and measure the characteristics of living organisms. Automatic identification or verification of the identity of a person based on physical or behavioral characteristics. The course provided knowledge and skills necessary to design and develop automated systems (such as face detection and recognition systems, iris and fingerprint recognition along with multibiometric and other methods) for people recognition based on their biometric features.

Computer Vision

2019

Techniques and applications of methods and algorithms for image analysis, such as pattern-recognition, segmentation. Artificial Intelligence techniques were treated and used, too.

Hobbies

Big fan of sports, football and motorsports over all. I enjoy playing football with friends. Music and movies lover. Technology and - of course - Artificial Intelligence enthusiast!