



# Federico Gianni

COMPUTER ENGINEER · SOFTWARE & DATA SCIENCE EXPERT

DoB: 12/09/95

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*M.Sc. student in Computer Engineering - Software at Politecnico di Torino. Passionate about Optimization Methods and Algorithms, Machine Learning, Deep Learning, Big Data and Data Science. Oriented toward challenges that require strong problem solving skills. Always improving soft skills and teamwork attitude.*

## Experience

### Tutor

COMPUTER TECHNOLOGY AND MATHS

- Provided private lessons, regarding maths and computer technology, to high school students.

*Turin, Piedmont*

*Jan 2016 - PRESENT*

### Competitive swimmer

GEMINI & CNT (CENTRO NUOTO TORINO)

- Regional champion undefeated for 5 years.
- Five national finals and participated twice in international finals.

*Syracuse, Sicily & Turin, Piedmont*

*Sept 2009 - Apr 2015*

## Education

### Liceo Superiore "Ettore Majorana"

HIGH SCHOOL DIPLOMA

- Scientific high school diploma, 93/100

*Noto (SR), Sicily*

*2009 - 2014*

### Politecnico di Torino

BACHELOR OF ENGINEERING - BE

- Computer Engineering

*Turin, Piedmont*

*2014 - 2017*

### Politecnico di Torino

MASTER'S DEGREE

- Computer Software Engineering

*Turin, Piedmont*

*2017 - Exp. 2019*

## Skills

<b>Domain Knowledge</b>	Machine Learning, Deep Learning, Cryptography, Operating System, Multithread Programming
<b>Programming languages</b>	C, C++, C#, Python, Java, Bash, AWK, Assembly 8086, ARM, Matlab, SQL, JS, PHP, HTML, CSS
<b>Libraries &amp; Frameworks</b>	NumPy, PyTorch, Scikit-learn, Matplotlib, Pillow
<b>Tools</b>	Git, Docker, JetBrains IDE, Eclipse, XAMP, Trello, Visual Studio, Android Studio

## Projects

### Wordlist generator

PERSONAL PROJECT

- Make customized wordlist through a variety of methods based on recursive and combinatorial algorithms.
- Useful for brute force attack (or dictionary attack).

*GitHub*

*Sept 2015 - Jan 2016*

### WeStudyBOT

HACKATHON PROJECT

- Python telegram BOT designed to facilitate the study of students developed for a competition.

*GitHub*

*Nov. 2017*

### Python Telegram BOT

PERSONAL PROJECT

- A guide on how to create, configure, code and use a Python Telegram BOT.

*GitHub*

*Oct 2017*

### C++ Thread Pool

PERSONAL PROJECT

- More threads access at the same data structure and the concurrency is managed by condition variable, lock (lock guard and unique lock) and mutex.

*GitHub*

*Oct 2018*

## Examination Timetabling

[GitHub](#)

PROJECT FOR THE "OPTIMIZATION METHODS AND ALGORITHMS" COURSE

Oct 2017 - Jan 2018

- The aim is to assign time-slots and resources to the meetings in order to satisfy the constraints as much as possible using meta-heuristics algorithm.

## ETS - ESP32 Tracking system

[GitHub](#)

PROJECT FOR THE "PROGRAMMAZIONE DI SISTEMA" COURSE

Jul 2018 - Oct 2018

- The purpose of the project is to sniff probe request packets sent by smart-phones that are looking for a Wi-Fi connection. From each sniffed packet some information will be extracted and elaborated in order to do several analysis.
- After each minute these information are sent to a server and processed. Then is possible to see the processed information (position, time frequency and etc.) through a GUI.

## Study and design data models for NFV and SDN architectures

[Soon on GitHub](#)

SPECIAL PROJECT FOR THE "DISTRIBUTED PROGRAMMING 2" COURSE

Oct 2018 - Mar 2019

- Collaboration with NetGroup PoliTO (Computer Networks Group at Politecnico di Torino).
- Data format (described by means of an XML schema) for the representation of all the most relevant information in the NFV (Network Function Virtualization) and SDN (Software Defined Networking) contexts.
- RESTful web service that permits to store and retrieve the NFV/SDN information.

## Machine Learning

[GitHub](#)

ACADEMIC PROJECT

Oct 2018 - Jan 2019

- PCA: application of PCA applied on images. It shows what happens if different Principal Components are chosen as basis for images representation and classification. Then a classifier will be chosen and applied in order to classify the images under different PC re-projection.
- SVM: the purpose is to plot data item as a point in n-dimensional space with the value of each feature being the value of a particular coordinate. Then, perform classification by finding the hyper-plane that differentiate the two classes.
- Deep Learning: implementation of a Convolutional Neural Network on a big image data-set. The code implements a basic NN and CNN, the data loading, the training phase and the evaluation (testing) phase. The training and testing are on CIFAR 100 data-set.

## Genetic Algorithm

[Soon on GitHub](#)

PERSONAL PROJECT

PRESENT

- Genetic Algorithm to find a solution to the Traveling Salesman Problem.

## AIY Voice Assistant

[GitHub](#)

HACKATHON PROJECT

Mar. 2019

- An home assistant that use natural language processor and it is able to connect to the Google Assistant or Cloud Speech-to-Text service.

# Extracurricular Activity

## Machine Learning Student Group

[Turin, Piedmont](#)

MEMBER

Feb. 2019 - PRESENT

- Passionate Machine Learning students of Politecnico di Torino in which ideas and advice are exchanged.
- Gained knowledge in Machine Learning and Deep Learning area.

## Hello BOT! - Hackathon

[Turin, Piedmont](#)

MU NU CHAPTER OF IEEE - HKN POLITO

11 Nov 2017 - 12 Nov 2017

- Winner of the Hackathon.
- A Python telegram BOT has been developed in 24h with a related presentations exposed to several companies.
- Code available on [GitHub](#).

## Reply Code Challenge - Hackathon

[Turin, Piedmont](#)

REPLY - 'CODE MASTERS TEAM OF REPLY'

30-31 Mar 2019

- Participation in the Hackathon.
- Find the solution of a logical-mathematical problem in any programming language.

## Like@Home - Hackathon

[Turin, Piedmont](#)

MU NU CHAPTER OF IEEE - HNK POLITO, SPONSORED BY REPLY

15 Mar 2018

- Winner of the Hackathon.
- The purpose is to develop in 24h an home assistant useful for students.
- Code available on [GitHub](#).

## Deep Learning

[Turin, Piedmont](#)

UDEMY COURSE

Apr. 2018

- Data Science: Natural Language Processing (NLP) in Python
- Modern Deep Learning in Python
- Deep Learning: Convolutional Neural Networks in Python

## Ethical Hacking

UDEMY COURSE

- Learn Ethical Hacking From Scratch
- The Complete Nmap Ethical Hacking Course: Network Security

*Turin, Piedmont*

*Mar. 2018*

## Honors & Awards

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### SWIM

2014	<b>Semifinalist</b> , Sette colli - International swimming championship	<i>Rome, Italy</i>
2014	<b>3th Place</b> , Italian swimming championship	<i>Rome, Italy</i>
2014	<b>1st Place</b> , Regional swimming championship	<i>Sicily, Italy</i>
2013	<b>4th Place</b> , Italian swimming championship	<i>Rome, Italy</i>
2013	<b>1st Place</b> , Regional swimming championship	<i>Sicily, Italy</i>
2012	<b>5th Place</b> , Italian swimming championship	<i>Rome, Italy</i>
2012	<b>1st Place</b> , Regional swimming championship	<i>Sicily, Italy</i>
2011	<b>1st Place</b> , Jeux des îles - International swimming championship (Cat. Juniores)	<i>Palermo, Italy</i>
2011	<b>1st Place</b> , Regional swimming championship	<i>Sicily, Italy</i>
2010	<b>1st Place</b> , Regional swimming championship	<i>Sicily, Italy</i>

### HACKATHON

2019	<b>1st Place</b> , Like@Home - Mu Nu Chapter of IEEE Hackathon (sponsored by Reply)	<i>Turin, Piedmont</i>
2018	<b>Participant</b> , Reply Code Challenge - Hackathon	<i>Turin, Piedmont</i>
2017	<b>1st Place</b> , Hello BOT - Mu Nu Chapter of IEEE Hackathon	<i>Turin, Piedmont</i>

## Languages

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**Italian**, Mother-tongue

**English**, B2, Level attested by IELTS Certificate - British Council

**French**, A2