



# Federico Gianni

COMPUTER ENGINEER · SOFTWARE & DATA SCIENCE EXPERT

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gianno-federico | DoB: 12/09/95

*"Inside every large program, there is a small program trying to get out."*

## 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.
- 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

**High level languages** C, C++, C#, Python, Java

**Low level languages** Assembly x86, ARM, MIPS

**Scripting languages** Bash, AWK

**Specific Domain** Matlab, SQL

**Web** HTML5, CSS, jQuery, JavaScript, PHP

**Tools** Git, Docker, PyCharm, CLion, PHPStorm, IntelliJ IDEA, 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

HACKAHTON 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

[GitHub](#)

PERSONAL PROJECT

Oct 2018

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

## 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

UDEMY COURSE

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

*Turin, Piedmont*

*Apr. 2018*

## 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> , Mu Nu Chapter of IEEE Hackathon	<i>Turin, Piedmont</i>
2018	<b>Participant</b> , Reply Code Challenge	<i>Turin, Piedmont</i>
2017	<b>1st Place</b> , 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