

## Curriculum vitae

”Ai fini della pubblicazione in ottemperanza all’art. 15 del D. Lgs. 33/2013”

Updated May 6, 2021

Giuseppe Capaldi

Email: giuppocapaldi@gmail.com

### Education

#### La Sapienza University of Rome

Rome, Italy

Master of Science in Engineering in Computer Science 110/110 *Cum Laude*

Advisor/Co-Advisor: Prof. Luca Iocchi/ Prof. Simone Scardapane

October 2018 – January 2021

#### La Sapienza University of Rome

Rome, Italy

Bachelor of Science in Ingegneria Informatica e Automatica 110/110

Thesis: *A Large-scale multi-UAVs Reinforcement Learning Framework with Multiple Abstraction Layers*

Advisor: Prof. Roberto Beraldi

September 2015 – October 2018

#### Liceo Scientifico Pacinotti Archimede

Rome, Italy

High School

99/100

September 2010 – 2015

### Courses

#### Elements of AI (2 ECTS)

June 2020 – June 2020

At University of Helsinki (Online Course)

A brief course completed in few days, explaining what AI is, what can (and cannot) be accomplished through AI techniques, combining theory with peer-evaluated questions.

#### Scuola di Alta Formazione ”stagionale” (Season School) in Ingegneria dei Sistemi per la Mobilità Integrata

January 2021 – February 2021

At Alma Mater Studiorum - Università di Bologna (Online due to Covid-19)

Promoted by Dipartimento di Ingegneria dell’Energia elettrica e dell’Informazione ”Guglielmo Marconi” together with Alstom Ferroviaria S.p.A., Ferrovie dello Stato Italiane S.p.A., FINSOFT S.r.l., SADEL S.p.A, SITE S.p.A., TPER S.p.A. The course provides knowledge and skills about Railway Infrastructures, signaling, ICT, big data and project management

## Skills

### Hardware

Proficient in: basic electronics, breadboarding, soldering, Arduino boards, Raspberry boards

Familiar with: ATmega328, ESP8266

### Software

Proficient in: Python, Git, Java, JavaScript, Arduino

Proficient with limits in: TensorFlow/Keras, C, C++, PostgreSQL, Docker, Heroku

Familiar with: Bash scripting,  $\LaTeX$ , Rails, Assembly x86, HTML, CSS

### Methodologies

UML, E-R models, Agile Developing

## Languages

**Italian** (fluent), **English** (advanced), **Spanish** (basic)

## Academic Projects

### **A Large-scale multi-UAVs Reinforcement Learning Framework with Multiple Abstraction Layers** (Thesis)

Description: use of AirSim, Unreal Engine, OpenAI Gym RL algorithms to enforce the vertical and horizontal separation in the 3D space while generating scalable and realistic UAV trajectories

Tools and tech: ROS basics, Airsim framework, Unreal Engine, OpenAI Gym, Python, 3D Simulation

### **SpiderSense** (Course of Internet of things )

Description: STM32 Nucleo board and MbedOS to control a simple mini servo radar real-time (open source, code on Github)

Tools and tech: Mbed OS programming (C++), Electronics, PWM, Android developing (Java)

### **Android App Based on Sesoros Beacons + Azure Services** (Course of Internet of things)

Description: SDK for beacons from Sesoros™ and Azure™ to build a simple app showing people maps in car parking (open source, code on Github)

Tools and tech: Android developing, Sesoros™ Beacon SDK, Azure Platform, Bluetooth Communication

### **Zombie Horde** (Course of Interactive Graphics)

Description: Zombie Horde 3d FPS browser videogame developed with ThreeJs (open source, code on Github)

Tools and tech: ThreeJs, Javascript

### **Simple File System** (Course of Operative systems)

Description: very basic low-level file system for Ubuntu 18, developed in bare C, from scratch (open-source, code on Github)