

Federico Marra

MSC STUDENT IN COMPUTER SCIENCE AND ENGINEERING @ DTU · SOFTWARE ENGINEER

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Education

DTU (Technical University of Denmark)

Kongens Lyngby, Copenhagen,
Denmark

MASTER COURSE IN COMPUTER SCIENCE AND ENGINEERING

September 2024 - PRESENT

- **Address:** Anker Engelunds Vej 1, Kongens Lyngby, Copenhagen, Denmark
- **Website:** <https://www.dtu.dk/english/>
- **Type of credits:** ECTS – **Number of credits:** 120
- **Current GPA:** 9,58/12
- **Courses:** Data Security (02239), Model Predictive Control (02619), Program Verification (02245), Software Engineering 2 (02162), User Experience Engineering (02266)

UNIFI (University of Studies of Florence)

Florence, Italy

BACHELOR COURSE IN COMPUTER ENGINEERING

September 2019 - April 2024

- **Address:** Piazza S.Marco 4, 50121 Firenze (Italy)
- **Website:** <https://www.ing-inl.unifi.it/index.html?newlang=eng>
- **Type of credits:** ECTS – **Number of credits:** 120
- **Final grade:** 91/110 – **GPA:** 23.5/30

Scientific Lyceum Guido Castelnuovo

Florence, Italy

SCIENTIFIC HIGH SCHOOL

September 2014 - June 2019

- **Address:** Via Alfonso la Marmora 20, 50121 Firenze (Italy)
- **Website:** <https://www.liceocastelnuovo.edu.it>

Skills

DevOps	Docker, Github, Jira
Back-end	Python, Java, C, C++, Rust
Front-end	Typescript, React.js, HTML, CSS, Javascript, Angular, Ionic
Programming	Node.js, Python, Java, C, C++, Matlab, Rust, LaTeX
Languages	Italian (Mother tongue), English (C1), French (A2), Danish (A1.1)
Driving License	B

Work Experience

SNAP4 S.r.l.

Sesto Fiorentino, Florence, Italy

SOFTWARE ENGINEER

March 2024 - August 2024

- I developed eShare in a Snap, first car sharing and car pooling app in Italy.
- **Technology:** Typescript, Angular, Ionic, Firebase, Capacitor
- **Snap4:** <https://www.snap4.eu>
- **eShare in a Snap:** <https://www.snap4.eu/products/eshare-in-a-snap-sustainable-mobility.html>
- **eShare in a Snap App Store:** <https://apps.apple.com/us/app/eshare-in-a-snap/id6572306097>
- **eShare in a Snap Google Play Store:** https://play.google.com/store/apps/details?id=com.snap4.eShare_in_a_Snap

Private Tutor

Florence, Italy

PRIVATE TUTOR

March 2023 - February 2024

- I tutored students in middle school mathematics, high school mathematics, and fundamentals of informatics at the university level for three different individuals.

Italian Republic

Florence, Italy

ELECTION SCRUTINEER SECRETARY

September 2022

Italian School

Florence, Italy

SCHOOL-WORK ALTERNANCE

June 2017 - June 2018

- **Observatory in Chianti:** Design of an educational path summarizing the history of the universe. Tasks included brainstorming, selecting key eras, creating bilingual content (Italian and English), and designing panel supports. Skills acquired: deep understanding of the universe's history, firsthand observation of an astrophysicist's work.
- **University Hospital Company Meyer:** Observation of pediatricians in the Rheumatology Department, assisting with patient visits and understanding the medical profession. Skills acquired: insights into the challenges of being a doctor, knowledge of rheumatology, including conditions like Lupus and Juvenile Idiopathic Arthritis (JIA).
- **Caritas Florence:** Creation of a file compiling the services offered by Caritas Firenze, mapping various locations in Florence and the positions of clothing recycling bins. Skills acquired: basic use of Photoshop and GIMP, understanding of the internal organization of the association.

Projects

DAPM, Distributed Architecture Process Mining

DTU

UNIVERSITY PROJECT

Fall Semester 2024

- In collaboration with my fellow students, as Software Engineering 2 project we extended two master thesis about DAPM Frontend and Backend, adding some new functionalities like process mining pipelines managing and access control to the distributed platform.

Technology: Docker, Typescript, React, C#

Four Tank MPC, Model Predictive Control

DTU

UNIVERSITY PROJECT

Fall Semester 2024

- In collaboration with a fellow student, as Model Predictive Control exam we implemented PID Controllers, Kalman filters, MPC, Non-linear MPC to a four tanks system.

Technology: MPC, Matlab, CasADi

Authentication, ACL and RBAC

DTU

UNIVERSITY PROJECT

Fall Semester 2024

- In collaboration with my fellow students, as Data Security project we implemented authentication, access control list and role based access control for a platform.

- **Technology:** Java

GitHub repository: <https://github.com/jackstefa/dtu-ds-authentication>

Automated Verification

DTU

UNIVERSITY PROJECT

Fall Semester 2024

- In collaboration with my fellow students, as Program Verification project we implemented an automated verification tool for slang.

- **Technology:** Rust, Viper

GitHub repository: <https://github.com/tornado80/program-verification-project1>

Frontend Platooning Simulation

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- In collaboration with a fellow student, as final project thesis we made a frontend Typescript simulation of the vehicle platooning phenomenon. We used the following libraries: React for UI rendering, Next.js for rendering server-side, p5.js to frame the canvas, Chart.js for graphic rendering and Paraglide.js for internationalization. It has also been written a thesis paper.

- **Technology:** Typescript, React.js, Next.js, p5.js, Chart.js, Paraglide.js

- **GitHub repository:** <https://github.com/albbus-stack/platooning-simulation>

Simulation website: <https://platooning-simulation.vercel.app>

Diabetes Management Java app

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- Java application for the management of a patch pump or insulin infusion device in people affected by diabetes. It also allows a local database and a backup database containing the historical records of the performed operations.

- **Technology:** Java

GitHub repository: <https://github.com/federicomarra/swe-diab>

Snap4All Android Java app

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- In collaboration with the DISIT Computer Engineering Unifi department and a fellow student, an app for Android systems has been made in Java that allows the use of NODE-Red on an Android device, with the possibility of importing your own flows. In addition, the app has also been aesthetically updated and a wiki page has been added.

- **Technology:** Java, Termux, NODE-Red

GitHub repository: <https://github.com/albbus-stack/snap4all>

DataScience project of comparison of Algorithms and Data Structures

UNIFI

UNIVERSITY PROJECT

- Jupyter notebook comparing Insertion Sort and Quick Sort algorithms, followed by a comparison of data structures Binary Search Trees and B-Trees.

- Link to the GitHub repository.

- **Technology:** Python, Jupiter Notebook

GitHub repository: <https://github.com/federicomarra/asd-lab>

Timer, Clock and Chronometer C++ app

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UNIVERSITY PROJECT

- C++ realization of a terminal executable app that works as a timer, clock and stopwatch using the Ncurses library.

- **Technology:** C++, Ncurses

GitHub repository: <https://github.com/federicomarra/timer-clock-chronometer>

Clone website Newspaper Il Post

UNIFI

UNIVERSITY PROJECT

- Creation of a clone website of Il Post using only HTML and CSS.

- **Technology:** HTML, CSS

- **GitHub repository:** <https://github.com/federicomarra/federicomarra.github.io>

- **Clone website:** <https://federicomarra.github.io/ilpost>

Extracurricular Activity

Podcast Cohost

MACCHERONI PODCAST

December 2022 - PRESENT

- I have honed my public speaking skills by engaging in in-depth discussions on a wide array of topics, including culture, personal development, and current events. This role has enhanced my ability to communicate effectively and think critically.

DTU Football Club

AMATEUR FOOTBALLER

December, 2011 - PRESENT

- I have been playing football since I was 11 years old, and I have played as a central forward in a second division team called Cobra Kai and now I am playing for DTU Football club.