Desiree **MANICARDI**

PhD in "Computer Science and Computational Mathematics"

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Projects as a *Recognised Researcher ("Assegnista di Ricerca")*

from 03/2024 to 02/2025 *Modelling and vErification of alkaptonuria and multiple sclerosis Driven by biomedICAI data* (MEDICA), financed by MIUR-PRIN 2022.

- Four universities: University of Pisa, University of Turin, University of Siena and University of Insubria.
- See the website *here*;
- Programming languages: *Python* and mainly *Java*.

Projects as a student

As a Ph.D. Student

from 06/2021 to 07/2021 **Read patients' heart beats per minute divided by gender and age**

smart-health, IoT, NoSQL, PHP, JavaScript, authentication, MongoDB, Node-RED, creating dashboards, UML, StarUML, TCP and MQTT protocols, LinuxOS

Design and development of a simulated smart-assed IoT application, using *PHP* to simulate hardware entities.

No grade, but passed.

As a Master Student

from 11/2017 to 05/2018 **Traineeship** *Span(Graph), (timing) Cospan(Graph) formalisms*

Analysis of the Span-Cospan(Graph) formalism, focusing on timing.

from 05/2018 to 06/2018 **Remote insulin calculation for non-pediatric diabetic patients**

smart-health, IoT, Java, authentication, MongoDB, Node-RED, creating dashboards, UML, StarUML, TCP and MQTT protocols, LinuxOS

Design and development of a simulated smart-assed IoT application, using *Java* to simulate hardware entities.

Grade: 27/30 (only project).

from 01/2018 **Support vector machine for collaborative filtering** *data mining, Java, Weka*

to 02/2018 Data mining application considering different classification algorithms: *Multilayer Perceptron*, *IBk*, *Naive Bayes*, *Random Forest*, and *J48*.

Grade: 29/30 (only project).

from 12/2017 **3D videogame** *Unity, HTML*

to 01/2018 Creation of a video game using the following tools and techniques: animations, particle systems, physics, collisions, meshes, shaders, textures, 3D models, and audio.

No grade, but passed.

from 10/2017 **A project about computer and requirements engineering**

to 12/2017 *UML, StarUML, KAOS and Problem Frames diagrams, software life cycle*

Study of the software lifecycle using UML diagrams, StarUML, KAOS, and Problem Frames: Analyzed and documented software processes to improve understanding and communication of system requirements.

Grade: 29/30 (only project).

07/2017 **Manage a library** *JSON, NoSQL database, software life cycle*

Management of a book list.

Grade: 29/30 (theory & project).

from 12/2016 **A real-time application** *UML, StarUML, C, Keil uVersion4, software life cycle*

01/2017 Development of a simulated automated sorting system with diverters and routers for packages, along with testing management.

Grade: 30/30 (only project).

As a Bachelor Student

from 02/2016 **Traineeship** *OAuth, API REST, Twitter API, PHP, CSS, Putty*

to 09/2016 Design and development of a web application aimed at filtering tweets using Twitter API.

06/2016 **Three apps Android** *fragments, data storage, location API, threads e AsyncTask*

Creation of three Android apps using fragments, data storage, location API, threads, and AsyncTask.

Grade: 30/30 (only project).

05/2016 **A web site** *HTML, CSS, JavaScript, AJAX, JQuery, PHP, SQL, MySQL, PhpMyAdmin, authentication, Apache HTTP Server, UML and ER diagrams, StarUML*

Creation of a website for adding, editing, deleting, and searching quotes and their authors.

Grade: 26/30 (theory & project).

from 11/2015 to 05/2016 **A social network** *Java, PostgreSQL, SQL, UML and ER diagrams, StarUML, software life cycle, develop a user guide, authentication*

Design and development of a social network.

Grade: 27/30 (only project).

08/2015 **A project about analysis and recognition in social networks** *Java, Gephi*

Dissemination of information on the social network Twitter: analysis of social network structure considering friends/followers. Identified local bridges (or edges with low neighborhood overlap) and verified their correspondence to weak ties based on behavior in retweets, mentions, and replies. The network was partitioned based on these ties.

Grade: 26/30 (theory & project).

from 02/2015 to 04/2015 **A project about software design** *Java, UML diagrams, StarUML, software life cycle*

Design and development of an application to manage an inventory of items.

Grade: 30/30 (theory & project).

from 10/2014 to 02/2015 **Manage a transport company** *Java, Assembly, UML, StarUML*

Development of an application to manage public transportation in a town which allows users to select the fastest route from point A to point B at a specified time, with results sorted by the number of transfers and travel time.

Grade: 27/30 (only project).

from 01/2015 to 02/2015 **A hardware and software project** *ArduinoUNO*

Designed and development of a game using an Arduino UNO, LCD screen, piezo buzzer, potentiometer, switch, and two resistors. It aimed at *teaching Morse code*, allowing users to attempt to write the Morse translation of displayed characters by pressing a switch briefly (for a dot) or for an extended period (for a dash), with feedback provided on the LCD screen.

Grade: 30/30 (only project).