

# David Marabottini

## Professional Profile

I am a **front-end developer**, driven by a strong passion for mathematics and everything that stimulates critical thinking.

I enjoy identifying hidden patterns in problems, following intuitions that sometimes turn into small personal theories, and translating abstract ideas into concrete solutions.

In recent months I have deepened my knowledge of **machine learning** and **data analysis**, developing predictive models that integrate different techniques.

I also have a **solid knowledge of SQL** and I am certified **PSM I and PSM II**.

I feel particularly comfortable in dynamic teams, where people cultivate a respectful, responsible and proactive approach.

## Personal Projects

### Fullstack Spam Detector

⌚ 12/2025 - ongoing

Development of a spam detection system for emails and SMS, with **React/TypeScript** frontend and Flask + Naive Bayes backend.

- **Frontend**: UI management, SSO authentication, user interface, API queries, unit tests and Storybook.

- **Backend**: predictive model training with Kaggle dataset (in English), REST API exposure, serialization with Joblib.

**Technologies**: React, TypeScript, Tanstack Query, SASS, Axios, Auth0, vitest, Python, Flask, scikit-learn, pandas, joblib.

[Frontend repository](#) - [Backend repository](#)

### Hypercube Building Framework

⌚ 11/2025

Development of a conceptual model for observing and visualizing team balance.

[GitHub Repository](#).

### CV redesign in XSLT + GitHub workflow integration

⌚ 09/2025 - ongoing

Creation of a PDF resume template generated from XML via XSLT and Apache FOP + GitHub workflow integration for PDF generation.

Goal: create an easily updatable, multilingual and customizable CV with a clean and professional design.

**Technologies used**: XML, XSLT, Apache FOP, Figma for the initial prototype.

[GitHub Repository](#)

### Triangular relationship theorem between different means

⌚ 09/2025

Hypothesized and proven a Pythagorean relationship between arithmetic mean, standard deviation and geometric mean over two numbers.

**Libraries used**: Python sympy.

[Proof notebook](#).

### Machine Learning Study

⌚ 06/2025 - 08/2025

Personal study focused on learning **ML** techniques in Python.

Implementation of **supervised and unsupervised learning** algorithms and management of complex datasets.

Exploratory analysis, data cleaning and preparation, predictive model building and performance evaluation.

**Libraries used**: scikit-learn, imbalanced-learn, pandas, matplotlib, optuna.

[GitHub repository](#).

### Personal conjecture on the Tower of Hanoi with p pegs

⌚ 06/2025

Development of a personal conjecture to calculate the minimum number of moves to solve the Tower of Hanoi with 3 or more pegs, through an equation that inverts tetrahedral numbers.

**Skills and technologies used**: Combinatorial analysis, pattern research, algorithms, Wolfram Alpha, JavaScript, numerical series analysis.

[Zenodo Repository](#).

## Work experiences

### Administrative assistant

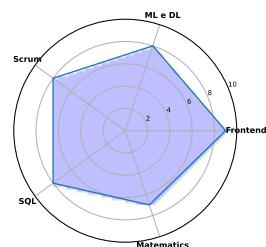
⌚ MPL ⌚ 05/2025 - ongoing

Technical and logistical support, and client research for family business

### Front-end developer

⌚ Key2Business ⌚ 06/2019-05/2025

## Expertise



## Certificates

★ PSM II - Professional Scrum Master II

★ PSM I - Professional Scrum Master I

## Hard skills

### ★ Machine learning

Supervised learning

Unsupervised learning

Meta-models

GridSearch/RandomizedSearch

Imbalanced data handling

### ★ Data

Python

R

Jupyter Notebook

Machine Learning

Power Query

Power BI

Excel/Power Pivot/DAX

### ★ database

SQL

Oracle SQL

MySQL

MS SQL

### ★ frontend

JavaScript

TypeScript

React, Next.js

Redux/Saga, Redux Toolkit

SEO, Web Vitals, accessibility

HTML5/CSS3

Bootstrap

jQuery

### ★ scrum

Scrum

Atlassian Suite (Jira, Confluence, etc.)

Front-end development and Application Maintenance (AM) on web portals and management systems in Banking, [Broadcasting](#) and Retail contexts, with focus on performance and SEO.

- Front-end development, unit testing, design systems and AMP pages.

- Active participation in cross-functional Agile teams (Scrum/Kanban).

- AM on xStore.

**Technologies:** Reactjs, Nextjs, Redux/saga/selectors, jest, storybook, AMP, SCSS, Typescript, Material UI, styled components, Recoil.

**Methodologies:** Scrum, Kanban, Waterfall

**IDE/Tools:** Visual Studio Code, Git, Jira, Jenkins.

#### Front-end developer

🔗 Blazar 📅 02/2018-05/2019

Front-end development on various management applications in banking and energy sectors in dynamic and often agile environments.

**Technologies:** React.js, SCSS, JavaScript,

**Methodologies:** Scrum

**IDE/Tools:** Jira, Trello, Git, Gitlab, Visual Studio Code

#### PHP developer

🔗 JigGiga 📅 04/2017 - 12/2017

Development of a PHP5 portal with MySQL, jQuery and Bootstrap for managing vehicle black boxes.

**Technologies:** PHP5, MySQL, jQuery, Bootstrap

#### Fullstack developer

🔗 Modis/Business changes 📅 01/2016 - 04/2017

Frontend development, procedures and algorithms for application forms for Lombardy region tenders.

**Technologies:** JavaScript, Oracle V9, Apache FOP

#### SQL expert and reporting specialist

🔗 Runtime Solutions 📅 01/2015 - 10/2015

Creation of queries, reports and layouts in Crystal Reports based on SAP platforms for various clients.

**Technologies:** Crystal Report, SQL Server, SAP

#### .NET Developer

🔗 Crenway Srl 📅 07/2014 - 11/2014

Development and monitoring of the "Punti Petalo" portal for a startup.

**Technologies:** ASP.NET Framework, C#, JavaScript, SQL (MS SQL SERVER), LINQ, Web services, Visual Studio, Team Foundation, Team Explorer, Google Analytics, Windows Azure

## Education

### Cybersecurity

💻 AKG 📅 21/10/2025 - 31/10/2025

Intensive training on essential cybersecurity principles. Skills acquired include:

- Data Protection: Management of confidentiality, integrity and availability of information.

- Active Defense: Techniques against social engineering, identity theft and malware protection (Trojans, ransomware, viruses).

- Digital Security: Use of strong passwords, file/folder encryption, secure network management (firewalls, VPN) and multi-factor authentication.

- Final Management: Backup procedures and secure destruction/removal of data and devices.

### Advanced Excel and Power BI

💻 AKG 📅 01/10/2025 - 20/10/2025

Goal: learn the fundamentals of advanced Excel, Power BI and Power Query.

#### Module 1 - Advanced Excel (foundations and data analysis)

- Advanced formulas: mastery of absolute and relative references, logical functions and advanced lookup functions (VLOOKUP, XLOOKUP, etc.)

- Data management: multi-level sorting, advanced filters

- Pivot tables: creation, analysis, customization and development of dynamic reports using slicers and KPIs.

#### Module 2 - Advanced Excel (automation and data modeling)

- DAX: writing DAX formulas to create measures and KPIs for advanced analysis

- Visualization: creation of Pivot Charts and data analysis dashboards

- Power Query (ETL): mastery in importing and transforming (normalization, merge) data from various sources (Web, CSV, PDF).

#### Module 3: Power BI (Visualization and Reporting)

- Power Query: usage directly within Power BI

- Dashboards and Reports: applying best practices for designing and creating interactive dashboards and reports

- DAX and M: basic knowledge of DAX and M languages

### ★ other

Office 365 Suite

XSL-FO

Figma, Miro

## Soft skills

Teamwork

Problem solving

Lateral thinking

## Languages

Italian



English



## Machine learning and data science in Python: the complete course

💻 Udemy 📅 06/2025 - 08/2025

Advanced training in [Machine Learning](#), focused on model implementation and handling complex analytical challenges (e.g. imbalanced datasets).

Strong skills in building robust modeling pipelines and automated algorithm optimization.

- Algorithms and Fundamentals: mastery of supervised and unsupervised learning techniques, implementation of regularization and dimensionality reduction strategies.

- Architecture and Development: hands-on experience in creating ML pipelines (scikit-learn/imblearn) and using meta-models.

- Performance and Tuning: hyperparameter optimization through Grid Search, Random Search and cutting-edge automated tuning libraries such as Optuna.

- Advanced Modeling: implementation of high-performance algorithms (e.g. XGBoost), meta-models (stacking-classifier, voting-classifier) and techniques for effectively handling imbalanced datasets.

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### **English lessons**

 Preply  02/2025 - ongoing

English conversation sessions

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### **Computer and Information Engineering (not completed)**

 University of Siena  2010 - 2013

University education focused on systems engineering and the software development lifecycle.

### **Core Skills and Developed Projects:**

- Software Design and Programming: learning and application of Object-Oriented Programming (OOP) principles and major Design Patterns.

- Project Development: hands-on experience in developing applications using backend programming languages such as C++ and PHP.

- Architecture and Networks: in-depth understanding of computer networks, database fundamentals and system design.

- Analytical Tools: solid foundations in core disciplines (Mathematical Analysis I and II, Linear Algebra, Dynamical Systems), essential for complex problem solving and algorithmic analysis.

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### **High school diploma in accounting and programming**

 ITCG CA Dalla Chiesa  2009

Technical education focused on the intersection between business/economic skills and IT development. This path provided the first structured foundations necessary for subsequent university and professional specialization.

### **Acquired Skills:**

- Programming Fundamentals: initial notions and basics of algorithmic logic and SQL.

- Accounting and Bookkeeping: fundamentals of accounting, bookkeeping and administrative principles.

- Applied Mathematics: strong analytical and mathematical preparation supporting university engineering studies.

## **External links**

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[linkedin](#) • [R Analysis](#) • [Stroke predictive models](#)

The undersigned is aware that, pursuant to Article 26 of Law 15/66, false statements, falsifying documents, and the use of false documents are punishable under the Criminal Code and special laws. Furthermore, the undersigned authorizes the processing of personal data, in accordance with Legislative Decree 196/2003.