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.

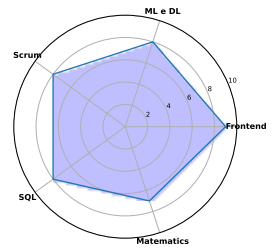## Work experiences

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 changers   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

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.

English lessons
📖 Preply   📅 02/2025 - ongoing

English conversation sessions

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.

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

linkedin   •   R Analysis   •   Stroke predictive models