



**Michael GARCIA, Ph.D.**

**Data Engineer**

Technical expertise with financial markets  
experience

Rigorous • Autonomous • Client-oriented

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[Portfolio](#)



## ABOUT

Data Engineer passionate about transforming complex data challenges into innovative technology solutions for financial markets. With banking experience and proven project management skills, I design data products using modern tools and best practices while thriving in collaborative trading floor environments.

## KEY COMPETENCIES

### Data Engineering

- **Languages:** Python, SQL (SQL Server experience)
- **Data Pipeline:** PySpark, FastAPI, Airflow
- **DevOps/DataOps:** Docker, Git, CI/CD (GitHub Actions)
- **Cloud & Infrastructure:** GCP, ETL processes
- **Web Development:** Backend development (expanding to React)
- **Monitoring:** Streamlit dashboards, data architecture tracking

### Finance & Business

- Banking experience
- Risk analysis
- Trading & financial markets interest

### Communication

#### & Soft Skills

- End-to-end autonomous project management
- Clear technical communication (FR/EN)
- Complex concept vulgarization
- Scientific rigor, resilient, startup mindset

## KEY DATA PROJECT (PERSONAL)

### Bank Branch Footfall Monitoring System – 2025

- **Situation:** A bank manually managed analysis of 500+ daily visitors across branches without real-time flow visibility.
- **Task:** Design an end-to-end automated pipeline to collect, transform, and visualize attendance data in real-time.
- **Action:** Developed FastAPI REST endpoints for data collection, created automated ETL pipeline (CSV > Parquet via PySpark, processing 10k+ lines/hour), orchestrated workflows with Airflow (daily DAGs), and built interactive Streamlit dashboard for self-service analytics.
- **Result:** Deployed prototype reducing analysis time by 80% (from 4h to 45min), achieved 99% processing reliability with integrated monitoring, and delivered accessible self-service dashboards.

⚙️ Python, FastAPI, PySpark, Airflow, Streamlit, Docker

## PROFESSIONAL EXPERIENCE

### Physics-Chemistry Teacher | 2013 – Present

*Éducation Nationale* | Savoie - Haute-Savoie

- **Situation:** Teaching 300+ students annually (6th to 12th grade) across 6 diverse institutions (priority education zones, city center, rural areas).
- **Task:** Design and deliver adapted pedagogical sequences, ensure individual student follow-up, and develop student autonomy.
- **Action:** Created 50+ digitized pedagogical sequences, led 3 school-enterprise partnership projects, implemented peer tutoring system, and facilitated scientific vulgarization workshops.
- **Result:** Developed expertise in differentiated pedagogy and technical communication for diverse audiences.

## LANGUAGES

**French:** C2 - Native

**English:** B2 - Fluent

**German:** A2 - Basic

## CERTIFICATIONS

- **Google Professional**

**Data Engineer**

**Certification** – in progress

- **Data-Upskilling (B.**

**Dubreu)** – 08-12/2024

## INTERESTS

- Martial Arts (Karate)
- Running
- Rugby
- Rock Climbing
- Financial Markets

## REFERENCES

- Available upon request

## PROFESSIONAL EXPERIENCE

### Research Scientist in Biophysics | 2009 – 2013

*Laboratoire Interdisciplinaire de Physique / CNRS | Grenoble*

- **Situation:** Research project on characterizing swimming dynamics of microalgae.
- **Task:** Conduct complete experimental study on Chlamydomonas movement mechanisms using optical microscopy.
- **Action:** Autonomous project management over 4 years, conducted 100+ experiments, developed Python scripts for data extraction and analysis (video processing, statistics, modeling), created experimental protocols, and presented results at 4 international conferences.
- **Result:** 1 peer-reviewed publication, PhD thesis defense, scientific English proficiency, and R&D project management expertise.

### Banking Advisor | 2007 – 2009

*Crédit Agricole / Banque de Savoie – Savoie*

- **Situation:** Joined 5-advisor branch with objective to develop client portfolio of 350 accounts.
- **Task:** Advise and sell financial products (loans, investments, insurance), analyze client patrimonial situations.
- **Action:** Managed autonomous portfolio of 400+ clients, conducted 20+ weekly client meetings, developed personalized advisory approach, and completed 20+ hours annual financial products training.
- **Result:** Exceeded annual commercial objectives by 15%, developed expertise in financial analysis and commercial negotiation.

## EDUCATION & QUALIFICATIONS

- **CAPES Physics-Chemistry (Teaching Certification) – 2015**  
*University of Savoie*
- **Ph.D. in Applied Physics to Living Systems – 2013**  
*University Grenoble Alpes*
- **Master's in Statistical Physics & Teaching Preparation – 2007**  
*École Normale Supérieure de Lyon*
- **Bachelor's in Physics – 2005**  
*University of Savoie*
- **Associate Degree in Mathematics & Computer Science – 2003**  
*University of Savoie*