



Michael GARCIA, Ph.D.

Data Engineer

Technical expertise with financial markets experience

Rigorous • Autonomous • Client-oriented

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Aix-les-bains (Fr) – Geneva

Swiss G permit (eligible)

[LinkedIn](#)

[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

[\[Link to the web app\]](#) [\[Link to the GitHub repository\]](#)

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