LUCAS **MOUILLERON**

Born in 1983, French, bilingual in English, married, 2 children

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Executive summary

Computer Science Engineer (M.S.) from Grande Ecole d'Ingénieur INSA Lyon France, specialised in **technology management**, **data** and **software engineering, architecture, ops** and **systems**, I have over **12+ years** of experience working on **high-tech projects**, specifically in the field of **systematic** and **quantitative asset management**.

Skills

✱ **Technology Management**

- **ResearchOps :** design, formalisation and tooling of the operational ResearchOps methodology to oversee, optimise, and consolidate highly sensitive technical/scientific production projects
- **Architecture and DevOps** : workflows, toolchains, architecture design, delivery, performance/continuity/SLA, security
- **Production management** : team management, supplier management, codebase management, quality control, familiar with remote context/pair programming, sizing and optimum studies, performance monitoring & analysis, technology watch
- **Project support :** audits, functional specifications, project management support, estimations, budgeting, benchmarking
- **Commercial support :** presentations, strategic contents, evangelisation

✱ **Production Engineering, Research Engineering, Data Science**

- **Data engineering :** ETL, pipelining, fetching (crawling, API, scrapping, etc.), processing (standard techniques, nlp, cleaning, etc.), storage (dbs, lakes, etc.)
- **Data analysis :** numerical and statistical analysis of large datasets, exploratory analysis, machine learning, NumPy, scikit-learn
- **Backend development** : data management (RDBMS, NoSQL, custom), services (REST, RPC, custom), IPCs (shared memory, sockets, etc.), complex systems (real-time processing, caching strategies, scheduling), monitoring, profiling, analytics
- **Frontend development** : GUIs, WUIs, TUIs, responsive design, MVC, frameworking (TKinter, Swing, Angular)
- **Production** : Linux, bare metal/cloud (AWS stack), CI/CD, deployment (Docker, custom), testing, performance and optimisation
- **Langages** : expert in Java, Python, very familiar with Objective C, Shell, JS, PHP, HTML/CSS, SQL, XML, JSON

✱ **Quantitative Finance**

- **R&D :** empirical analysis of financial time series, low/medium/high frequencies
- **Data** : markets, fundamentals, news, events, regulatory data, analyst forecasts, etc.
- **Alpha :** implementation of signal engines, backtesting tools, exploratory frameworks for absolute performance strategies
- **Beta :** development of portfolio construction tools for factor and thematic investing
- **Production, asset management :** design and development of systematic portfolio management software (PMS, OEMS, etc.)
- **Operations :** technological support across the entire front/middle/back-office chain

Education

✱ **Computer Science Master's Degree — 2006 — INSA Lyon, France**

- Diplôme de Grande Ecole d'Ingénieur, equivalent to international Master's Degree
- Top 10 Grande Ecole d'Ingénieur, France
- Astronomy club member, coded a software to remotely acquire telescope images

✱ **AMF Certification, French Financial Market Authority**

Professional experiences

✱ **Since 2022 — CTO, Founding Partner — DMC Capital**

- Developing an innovative product offering combining "alpha + beta" strategies
- Design and development of a beta factory : Python, NumPy, custom reporting, GUIs
- Implementation of multi-strategy product strategies : 4 strategies, global, 4K+ instruments, Python, NumPy, 50GB model processed in RAM
- Website: https://www.dmc-capital.com

✱ **2018 - 2022 — Head of Technology, Quantitative Engineer — ERAAM**

- Designed and implemented the systematic PMS for equity funds: global scope, 10+ portfolios, 2K+ instruments per portfolio, daily rebalancing, 400M€+ AUM, Python backend + frontend, 150K+ lines of code
- Developed the datacenters : 3 locations, heterogeneous data, 20+ providers, 3TB, custom db engines, bare metal, Linux, Java, Python, 200K+ lines of code
- Led research engineering for factor-based equity models : in-house framework, NumPy, scikit-learn, pair-programming with 2 researchers, 200K+ lines of code
- Developed the asset management support ecosystem : OEMS (FIX, Python, TKinter, Angular), reporting factory (Python, Weasyprint), orchestration (python CLI)
- Led the industrialisation of front/middle/back office processes, 8 people under my advisement
- Managed IT operations, 3 people under my supervision

✱ **2011 - 2018 — CTO, Quantitative Engineer, Co-Founder — Turing Capital**

- Designed and developed signal engines and the mid-frequency proprietary trading PMS : 20B€ cumulated turnover, highly critical software (real-time, high performance, shared memory, scheduling), APIs (RMI, RPC), GUI/WUI/TUI frontends, Java, Python, 2 people under my supervision, 200K+ lines of code
- Built the datacenter : datalakes, databases, 30+ providers, 10GB per day, custom database engines, fetch/process/store/monitor pipeline, API/RMI/RPC, WUI/TUI frontends, fallback systems, bare metal/AWS, Linux, Java, Python
- Conducted research engineering for mid-frequency quantitative models : ResearchOps architecture, exploratory framework, signal engines, backtesting, pair-programming with 1 researcher, 300K+ lines of code
- Sold the company to ERAAM, valued for several million €

✱ **2010 - 2015 — Technical Direction — Diplomatic Cover / Publicis Group**

- Led production management : internal team (6 people) and offshoring (pool of 15 suppliers), 40+ heterogeneous projects, (large CMSs, highly interactive promotional websites, android apps, etc.)
- Developed high-value-added solutions and pre-sales prototyping in context of high traffic of impact international advertisement campaigns
- DevOps : managed environments administration and toolchain development (ant, Docker, Amazon Web Services)
- Supported commercial efforts: digitalisation of teams, consulting for the commercial department

✱ **2008 - 2010 — Professional Musician — M.I.N.F. / Music Is Not Fun**

- Co-founded the band, composed, produced, drums
- Managed band development, communication, and marketing : EMI, PBox, Discograph, ad campaigns for Decathlon, BASF
- Released debut album (10K+ sales), second album with EMI (10K+ sales)

✱ **2006 - 2008 — Software Engineer — Steria**

- Design, developed and delivered softwares in Java, PHP and Javascript
- Heterogeneous clients and projects : large content sites, secure messaging system, internal tools, etc.
- Quality management : methodological study, testing plan writing, maintenance
- 10+ projects : Ministry of Defence, GDF, SFR