Matthieu Dubet

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Senior software engineer/architect. I have experience in various stacks (C++, Ruby, OCaml, Web) and environments (academic, bank and multiple highly successful European startups). My main interests are programming languages (design and implementation) and software architecture (some of my articles have been featured on the front page of Hacker News, such as Microservices considered harmful or Exploring LLVM optimizations).

Work Experience

2020 - *Current*

Software Engineer: *OCaml, Javascript.*
Payfit (Paris): Next40 member (raised $70M Serie C).

- Implement the base compiler (parsing, semantic analysis, optimization) for an in-house spreadsheet programming language.
- Improve the runtime performance of the language (executed in the browser) from multiseconds to less than 100ms in some pathological cases.

2019

Software Engineer: *Go, Postgres, AWS.*
Qonto (Paris): European neobank (raised $104M Serie C), #1 Global Fintech Emerging Stars.

- Scale to production (from 0 to 40k+ users) our own Core Banking System written from scratch.
- SQL optimizations (isolation level, serialization).
- Ringfencing and treasury automation.

2016 - 2018

Software Engineer: *Ruby, Rails, Postgres, RabbitMQ.*
Captain Train (Paris): Bought $189M by Trainline (IPO in 2019: £2.11bn).

- Engineering: maintain a 100k+ lines Ruby app, integrate 2 new train carriers in our app, manage sensitive information with AES/RSA encryption.
- Product: discuss new integration requirements and roadmap with partner train carriers (SNCF, Thalys).
- Leadership: onboard 2 new engineers in the team, captain of soccer team.

2014 - 2016

Software Engineer: *C++11.*
Société Générale (Paris): #17 biggest bank in the world by AUM.

- Co-architect and implement the core of a low-latency (order of μsecond) trading automata with various techniques such as memory pool, preserialized data structure (flatbuffers) and inline assembly.

Fall 2013

Course Lecturer: *Compiler Design and Implementation.*
McGill University (Montréal).
Teach an advanced class for final-year undergraduates which studies the implementation of real-world compilers (parsing, semantic analysis, optimization).

Summer 2011

Software Developer Internship: *OCaml, C++, Qt.*
INRIA (Toulouse).
Extend a CPU simulator to help teaching assembly programming to students.

Education

2011 - 2013	Master Thesis in Computer Science. McGill University (Montréal): Ranked #1 in Canada, #24 overall (QS World). • GPA: 3.9/4.0 • Thesis Efficient JIT compilation of Matlab loops rated Excellent, Top 10%. • Implement (C++/LLVM) a JIT compiler for Matlab (orders of magnitude faster than the reference implementation on numerical programs).
2007 - 2011	Bachelor in Computer Science Paul Sabatier University (Toulouse) Ranked 6^{th}/101

Skills and Hobbies

Programming:	High-performance and low-latency programming (Concurrency, Parallelism, C++14). Compiler implementation (LLVM). Functional programming (OCaml). SQL (Postgres). Web programming.
Side projects:	*Chaout*, location-based messaging app for mobile (Flutter, Go, Postgres). *Newsbutler*, Slack bot to watch Hacker News comments (Crystal). *Egg lang*, general purpose programming language (Rust).
Languages:	French (native), English (fluent).
Others:	Competitive soccer, Backpacking (Asia).