

SEBASTIEN DONADIO

Chicago, IL / New York, NY

708-669-6517
sebastien.donadio@gmail.com

SUMMARY

CHIEF TECHNOLOGY OFFICER with 15 years in finance, defense, and software, including public, private, and startup firms, as well as academic teaching and research experience. Expertise in finance and technology. Hands-on developer with keen eye for processing improvements. Strategic, influential leader with strong business acumen and skill in turning around 'problem' projects and resources. Demonstrated ability to quickly recruit talent for high-performing teams and implement complex, concurrent, and time-sensitive projects/programs.

- Technology Leader
- Machine Learning
- Team Management
- Data Modeling
- Trading System Design
- High-Performance Computing

EDUCATION

- **MS, Analytics, UNIVERSITY OF CHICAGO**, Chicago, IL 2017
- **MBA, Finance, WILMINGTON COLLEGE**, New Castle, DE 2010
- **PHD summa cum laude, Computer Science –UNIVERSITY OF VERSAILLES** (France)
- **UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN** (VISITOR STUDENT) 2007
 - **Dissertation:** *Iterative Optimization of Performance Libraries by Hierarchical Division of Codes*
- **MSC, Computer Science, UNIVERSITY OF VERSAILLES** 2004
- **MSC, Engineering, INSTITUT DES SCIENCES ET TECHNIQUES DES YVELINES** (Versailles) 2004
- **GRADUATE, Scientific CPGE, CLASSES PRÉPARATOIRES AUX GRANDES ÉCOLES** (elite French post-high school preparatory system for top 5% of students)

EXPERIENCE

TRADAIR, New York, NY / Tel-Aviv, Israel

2018 – PRESENT

Chief Technology Officer

Responsible for overall global infrastructure and efficient running of IT operations.

- Directed the development and implementation of FX and Crypto Trading Platform
- Developed book aggregation and external gateways resulting in increased productivity and reduced the CPU loads
- Java (Core & EE, Spring Boot, Spring MVC, Spring Cloud)
- UI/UX (React JS, Angular or equivalent)
- SCM / DevOps / CI/CD tools & process (GIT/GitHub, Maven, Jenkins)
- Web Technologies (JavaScript, HTML 5, CSS, JSON, REST, SOAP)
- Testing tools & frameworks JUnit, Selenium)
- Agile Methodology and Tools (JIRA)
- Big Data / NoSQL (Elastic Search, Hadoop, MongoDB)
- Micro Services & Layered (SOA/MVC) Architecture
- Integration patterns and messaging technologies (Kafka, RabbitMQ)
- Cloud deployments (Private Cloud / AWS)
- Cloud Platforms, Container/Orchestration (Docker, Kubernetes)
- Open Source and Cloud Technologies such as Apache Storm / Ignite, ELK, Dynatrace, Grafana

LONG RIDGE, New York, NY

2020 – PRESENT

Industry Advisor

Responsible for assessing technology to recommend financial investment.

MUSICFOX, Chicago, IL

2020 – PRESENT

Industry Advisor

Responsible for advising technology and statistical model related to the musical business.

HC TECHNOLOGIES, New-York, NY**2017 – 2018****Head of Software Engineering**

Staffed, restructured and managed resources to improve speed, reliability, scope of deliverables
Designed and built software engineering rules, workflows to optimize software deliveries

- Trained, assessed engineer skills to redeploy them according to the company strategy
- Built workflows to keep track of all code changes
- Met with product owners and team leads to refine and prioritize work backlog
- Managed core integration development team (15 engineers)
- Developed process and policies to help solidify a fast-moving, predictable delivery schedule in an agile scrum process
- Worked with stakeholders to better understand project goals and requirements
- Participated in architecture, modeling, and design meeting with development team leads
- Staffed and technically managed devops teams
- Educated teams for trading system designs and machine learning
- Code reviewed and implemented C++ and Python code for the trading system

TRADAIR, Tel-Aviv, Israel**2017 – 2018****Expert Consultant**

Consulted the software architecture of the FX exchange to give guidelines for speed optimizations and for team changes

- Audit company structure and gives recommendation for improving deliverables based on the client needs
- Analyzed the software architecture and advised ten main critical changes to speed-up the system and improve the scalability
- Reviewed software engineering process to streamline the engineering team efficiency
- Reorganized and staffed engineering teams
- Optimized Java code to find performance inefficiency

SUN TRADING, Chicago, IL**2013 – 2017****Quantitative Developer/Architect**

Designed and built US equities strategy for auction markets for this proprietary trading firm. Created parts of trading system (C/C++, Python). Analyzed market data to create trading strategies. Analyzed market data, trends, and news to identify patterns. Expedited ability to forecast along with accuracy. Organized workflow and built management tools

- Coordinated special effort to redesign whole release system that was requiring 25% of engineer times for problem resolution. Improved efficiency by 20%, reducing problem resolution time by over 90%, and enabling accelerated releases.
- Built testing and regression process used to check validity of any change to trading system and its impact on other parts of the system as well as to measure any performance degradation associated with the change.
- Architected trading algorithm based on news, equities pair correlation
- Designed time management tools to capture the effort of different teams across the company

AIEN TRADING, New York, NY**2011 – 2013****Partner/Senior Software Architect/Manager**

Designed, built, and implemented multicore distributed high frequency trading platform (C/C++, Python). Coordinated and informed seven software developers to build trading system for this hedge fund. Educated and managed team regarding project requirements and timelines.

- Designed and implemented high-frequency trading strategy that achieved 20 microseconds for time to order and generated \$500K / month using market signals.
- Support all aspects of construction of the company's operational model: hiring, strategy, managing new branches (opened London office) and assuring coordinated, consistent practices.

ET INTERNATIONAL INC., Newark, DE

2008 – 2011

Senior Architect / Team Lead

Led 14 software engineers to build operating system for Department of Defense super computer. Designed and implemented the back-end of this super-computer, e.g., compilers, binutils, system kernel.

- Devised architecture to improve performance of native compilers until they mature to state of producing high-performance executables alone.
- Created adaptive compiler for DARPA that produces code achieving peak performance of complex architecture. Led team of four engineers in a cross university effort to build the front-end of compiler. Created a source-to-source optimizing compiler that tailors application code for efficient execution on a specific target system.
- After designing operating system for DoD, managed transition of research project to an industrial one. Restructured organization to enable sale of technology product.

QUERY CONSULTING, Paris, France

2007 – 2008

Founder/CEO

Built and staffed consulting company specialized in database optimization and code optimization. Worked on optimizing latency and execution time on large data problem.

SOCIETE GENERALE SA, Paris, France

2007 – 2008

IT Architect and Development Manager

Managed five teams of software developers charged with designing and improving the risk-IT system for financial services conglomerate.

- Developed automated performance tuning and Quality Check test suite for banking organization that saved \$2MM on annual basis.
- Designed risk computation engine to calculate credit risk ratio. Increased application performance by 90%.

BULL SAS, Les Clayes-sous-Bois, France

2004 – 2007

Research Engineer

Designed application for automated optimization process for linear algebra library for R&D department of hardware Manufacturer.

- Improved performance of Intel code library by 90% by optimizing automation.
- Conducted review for automated operations (software) division of French Institute of Petroleum (IFP) and removed redundant steps. Decreased cost of gas drilling costs by 20%.

TEACHING EXPERIENCE

COLUMBIA UNIVERSITY, New York, NY

2018 – PRESENT

- **Lecturer:** Teach courses about “Financial Computing” to Master of Science in Financial Engineering

NEW-YORK UNIVERSITY, New York, NY

2018 – PRESENT

- **Lecturer:** Teach courses about “Machine Learning” to Master of Science in Financial Engineering

UNIVERSITY OF CHICAGO, Chicago, IL

2015 – PRESENT

- **Lecturer:** Teach courses about “Compilers”, “Distributed Systems” and “Trading Systems Design” to Computer Science Master’s degree/ “Computing for Finance in Python” “Advanced Computing For Finance in C++”, Financial Mathematics Master’s degree, Advanced Python for Streaming Analytics for Master in Science Analytics

UNIVERSITY OF DELAWARE, Newark, DE

2008 – 2010

- **On-Demand Lecturer:** Delivered courses as needed in “Compiler Architecture” to PhD students in Electrical Engineering.

UNIVERSITY OF VERSAILLES, Versailles, France

2003 – 2014

- **Lecturer and Project Lead (2013 – 2014):** Taught “How to Build a Trading System in C” to Computer Engineering Master’s degree students.
- **Lecturer and Project Lead (2003 – 2007):** Educated Computer Engineering Master’s degree students on topics related to “Computer Architecture Design”.
- **Lecturer (2003):** Taught “Introduction to Java Programming” for Bachelor’s degree students.

PROGRAMMING SKILLS

- | | | |
|--|------------------------------|--------------------------------|
| ▪ C/C++ (<i>advanced: 15+ years</i>) | ▪ SQL (<i>advanced</i>) | ▪ .NET (<i>intermediate</i>) |
| ▪ Java (<i>advanced: 10+ years</i>) | ▪ Python (<i>advanced</i>) | ▪ R (<i>intermediate</i>) |

LANGUAGES

- | | | |
|----------------------------|-----------------------------|----------------------------|
| ▪ French (<i>native</i>) | ▪ English (<i>fluent</i>) | ▪ Italian (<i>basic</i>) |
|----------------------------|-----------------------------|----------------------------|

CERTIFICATIONS

Series 7

ADDENDUM – PUBLICATIONS

- Loop Optimization using Adaptive Compilation and Kernel Decomposition, D.Barthou, **S.Donadio**, A.Duchateau, P.Carribault, W.Jalby, ACM/IEEE Intl. Symposium on Code Optimization and Generation, San Jose, Mar. 2007
- Iterative Compilation with Kernel Exploration, D.Barthou, **S.Donadio**, A.Duchateau, W.Jalby, E.Courtois, Workshop on Languages and Compilers for Parallel Computing, New Orleans, Oct. 2006
- Search of a Program Generator to Implement Generic Transformations for High-Performance Computing, A. Cohen, **S. Donadio**, M.-J. Garzaran, C. Herrmann, O. Kiselyov, and D. Padua. Lecture Notes In Computer Science (LNCS), 62(1):25-46, September 2006.
- A Language for the Compact Representation of Multiple Program Versions, **S.Donadio**, J.Brodman, K.Yotov, D.Barthou, A.Cohen, M.J.Garzaran, D.Padua, K.Pingali, Workshop on Languages and Compilers for Parallel Computing, New York, Oct. 2005
- In Search for a Program Generator to Implement Generic Transformations for High-performance Computing, A. Cohen, **S. Donadio**, M.-J. Garzaran, D. Padua, and C. Herrmann. In 1st MetaOCaml Workshop (associated with GPCE), Vancouver, BC, Canada, October 2004
- Book: Learn Algorithmic Trading: Build and deploy algorithmic trading systems and strategies using Python and advanced data analysis, **S. Donadio**, S. Ghosh