Mohammed **Boujemaoui**

Senior Software Engineer · Quantitative Developer

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"Data tells the story; execution wins the game."

Skills

Personal Skills

- Collaborative professional with proven success in cross-functional and multicultural team environments.
- Self-driven individual demonstrating proactive ownership and accountability in high-pressure situations.
- Adaptable technologist with rapid learning capabilities and passion for emerging technologies.
- Strategic problem-solver focused on practical, scalable solutions.
- Clear communicator who mentors teammates and bridges research and engineering.
- Active open-source contributor and maintainer of different C++ libraries and tools.

Software Engineering

- Extensive experience building, optimizing, and supporting high-frequency trading (HFT) execution platforms.
- Deep expertise in modern C++ for ultra-low latency, safety-critical trading systems in production environments.
- Developed performance-critical infrastructure for order routing, matching engines, risk controls, and market data feeds.
- Contributed to multi-asset exchange connectivity for global venues: EUREX, EURONEXT, CME, ICE, NSE.
- Engineered crypto exchange integrations across Binance, Bybit, Deribit, Gate.io, and Bitstamp platforms.
- Cross-domain expertise in digital signal processing, computer vision, and algorithmic applications (C++, Python, MATLAB).
- System optimizations: vectorization, multi-threading, lock-free algorithms, kernel bypass, kernel tuning, and SIMD acceleration.
- Built distributed systems with focus on reliability, scalability, and low-latency performance under high concurrency.
- Open-source contributor with projects integrated into major applications including Git, Firefox, and QGIS.
- Multi-language proficiency: Python (expert), Rust, C, Java, C#, JavaScript, Go.

Algorithmic Trading Development

- Standardized research-to-production workflows with validation protocols and deployment automation.
- Delivered production trading strategies with measurable revenue and P&L impact.
- Coordinated quant research, engineering, and production teams to keep deployment cycles on track.
- Specialized in real-time algorithmic strategy research, development, and production deployment.
- Applied advanced mathematical modeling, statistical analysis, and quantitative research methodologies to trading systems.
- Leveraged data engineering and machine learning techniques for trading research and strategy enhancement (Python, MATLAB).
- Built integrated backtesting and simulation frameworks to validate strategies before going live.
- Built tooling for parameter tuning and statistical filters to reduce overfitting risk.
- Managed monitoring, alerting, and rapid troubleshooting frameworks for live trading operations.
- Introduced real-time alerting and performance dashboards to improve risk visibility.

Work Experience

Eagle Seven

Amsterdam, NL - Dubai, UAE

C++ Senior Software Engineer - Strategy Development Lead — *November 2022 - Present*

- Lead design, development, and deployment of low-latency trading algorithms and predictive models across energy markets.
- Developed market-making and statistical-arbitrage strategies in energy futures using market microstructure analysis.
- Built and maintained spread-trading strategies with real-time performance monitoring and optimization.
- Partnered with quant research to operationalize models into production-grade trading execution.
- Monitored, analyzed performance, and troubleshot exchange integrations for European energy venues (EEX, ICE, CME, Trayport).
- Optimized algorithm performance through parameter tuning and risk analysis.
- Oversee data acquisition, cleaning, and analysis to identify trading signals.
- Mentor and support research and production teams on systems and workflows.
- Build monitoring tools and front-end solutions for system configuration and analytics.
- **Technologies**: C++23, STL, Python, Linux, CI, Market Making, Statistical Analysis, ML/AI, Databases, C#, JavaScript

IMC Trading

Amsterdam, Netherlands

C++ Software Engineer - HFT Execution & Core Team — *May 2019 – May 2022*

- Contributed to low-latency trading platform for global market making operations.
- Implemented and tuned execution engine components for order routing, market connectivity, and risk management.
- Helped remove bottlenecks using kernel bypass, zero-copy I/O, lock-free designs, cache optimization, and Linux kernel tuning.
- Delivered market connectivity for Eurex, Euronext, CME, NSE, and Bovespa alongside software and FPGA teams.
- Collaborated with hardware engineers to reduce latency at the nanosecond level.
- Provided production support for live HFT strategies with a focus on uptime and performance.
- Maintained risk checks and order flow controls for production systems.
- Assisted on large-scale distributed systems and service-oriented architecture.
- Built front-end tools for analysis and configuration of trading systems.
- **Technologies**: C++17, STL, Linux, TCP/UDP, FPGA, Databases, Python, Java

Prophesee
Paris, France

C++ Software Engineer - Algorithm & Computer Vision — *Feb 2018 – May 2019*

- Developed and integrated real-time computer vision and machine learning algorithms for event-based cameras on Intel and ARM architectures.
- Designed and optimized DSP pipelines for image signal processing, including motion segmentation, SLAM, and object tracking.
- Implemented, profiled, and validated production-ready embedded software for automotive and industrial vision applications.
- Collaborated with multi-disciplinary teams to deliver robust, low-latency vision solutions.
- **Technologies**: C++11/14, C, STL, Boost, OpenCV, OpenGL, Python, Qt

Arkamys
Paris, France

C++ Software Engineer – DSP & Audio Engineering — *Aug 2017 – Jan 2018*

- Developed digital signal processing (DSP) algorithms for automotive audio systems on ARM and dedicated DSP hardware (Sharc, TI, Qualcomm).
- Implemented real-time audio effects, enhancement, and 3D spatialization algorithms for embedded Unix platforms.
- Built embedded software for automotive clients, focusing on performance and maintainability.
- Worked with teams on algorithmic design, system integration, and performance optimization.
- **Technologies**: Embedded C/C++, C++11/14, DSP, MATLAB, Qt, Unix, STL

Appfluence Inc.
Granada, Spain / Silicon Valley, USA

C++ Software Engineer - Qt & Cross-Platform — *May 2015 – Jul 2017*

- Developed and maintained cross-platform desktop and mobile applications using C++ and Qt.
- Focused on scalable, efficient code and modern C++ design patterns.
- Designed and optimized user interfaces with Qt (QWidgets and QML).
- **Technologies**: C++11/14, STL, Qt, Boost, Protobuf

Education

M. S. in Telecommunications Engineering
Granada, Spain

University of Granada — *Sept. 2015 - Jun. 2017*

- **Thesis:** Design and implementation of a multi-platform application that implements a local positioning system (LPS) based on the Time-Of-Flight of the signal using the sound/ultrasound spectral frequencies.

B. S. in Telecommunications Engineering
Granada, Spain

University of Granada — *Sept. 2011 - Sept. 2015*

- **Thesis:** Design and implementation of an application that process and extracts audio properties in real time for medical usage. The application implements the main generic DSP algorithms to display the different acoustic properties in real time.

Contributions

WinToast
C++

Win32 C++ Library — *October 2016 - Present*

- WinToast is a light library written in C++ which brings a complete integration of the new toast notifications of Windows 8, 10 & 11 in a clean and straightforward interface. WinToast is integrated into different open-source projects, Git for Windows deserves a special mention.
- **Officially used in Git (for Windows), Firefox, QGIS, MegAsync and others.**

eDSP
C++

DSP Meta-programming Library written in C++ — *October 2017 - Present*

- EasyDSP is a cross-platform DSP library written in modern C++. It is a header-only library that harnesses the power of C++ templates to implement a complete set of DSP algorithms.

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