Mohammed **Boujemaoui**

Software Engineer · Quantitative Developer

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"Good design adds value faster than it adds cost"

Skills

Personal Skills

- Strong team player, effective in cross-functional environments.
- Self-motivated, proactive, and ownership-driven.
- Fast learner, quick to master new technologies.
- Creative problem-solver, focused on practical, high-impact results.
- Ongoing contributor to side projects and open source.

Software Engineering & Quantitative Development

- Extensive experience building, optimizing, and supporting high-frequency trading (HFT) execution platforms.
- Deep expertise in modern C++ for ultra-low latency, safety-critical systems in production.
- Built and maintained multi-asset exchange connectivity for global venues: EUREX, EURONEXT, CME, ICE, BOVESPA, NSE.
- Designed and implemented crypto exchange connectivity: Binance, Bybit, Deribit, Gate.io, Bitstamp.
- Designed and implemented performance-critical infrastructure: order routing, matching, risk checks, and market data feeds.
- Led system profiling and optimization: vectorization, multi-threading, lock-free algorithms, kernel bypass, and SIMD.
- Hands-on in real-time algorithmic strategy design and production execution.
- Experience managing intraday monitoring, alerting, and rapid troubleshooting frameworks.
- Strong background in mathematical modeling, statistical analysis, and quantitative research for trading.
- Data engineering and machine learning for research and trading (Python, MATLAB).
- Built and maintained robust, reliable codebases for large-scale, distributed, and concurrent trading systems.
- Additional experience in digital signal processing, computer vision, and related fields (C++, Python, MATLAB).
- Proficient in Python, with additional experience in Rust, C, Java, C#, JavaScript, Go.
- Proficient in Rust, with several side projects implementing exchange connectivity to multiple crypto venues

Cross-Team Expertise & Leadership

- Delivered production trading strategies with measurable revenue impact.
- Coordinated quant research, engineering, and production teams to drive best practices and impactful initiatives.
- Synchronized technology teams and managed end-to-end processes from research to live production.
- Led strategy simulation, optimization, and backtesting for consistent research and production results.
- Built and maintained intraday monitoring and rapid issue detection frameworks.
- Established efficient processes for idea vetting, prototyping, and cross-team validation.
- Developed advanced parameter optimization and filtering pipelines to reduce overfitting risk.

Work Experience

Eagle Seven

Amsterdam, NL - Dubai, UAE

C++ Senior Software Engineer - Strategy Development Lead

November 2022 - Present

- Lead the development, research, and deployment of low-latency trading algorithms and predictive models across multiple markets.
- Direct the technology roadmap and ensure close collaboration and alignment between quant research and engineering teams.
- Design, prototype, and backtest electronic trading strategies, driving measurable improvements in P&L and execution quality.
- Validation, monitoring, and integration of connectivity to EEX, ICE, CME, and Trayport.
- Lead performance analysis, parameter tuning, and production risk review of trading strategies and infrastructure.
- Drive data acquisition, cleaning, and analysis to identify actionable trading signals.
- Provide technical expertise, mentoring, and hands-on support in both research and production environments.
- Deliver real-time monitoring tools and front-end solutions for configuration and analytics of financial systems.
- **Technologies**: C++23, STL, Python, Linux, CI, Statistical Analysis, ML/AI, Databases, C#, JavaScript

IMC Trading

Amsterdam, Netherlands

C++ Software Engineer - HFT Execution & Core Team

May 2019 – May 2022

- Building and maintaining the ultra-low latency trading platform powering IMC's global market making.
- Designed, developed, and optimized latency-critical components for order execution, market connectivity, and risk management.
- Led system-level profiling, kernel bypass, and zero-copy I/O optimizations in high-performance, multi-threaded environments.
- Multi-venue market connectivity for Eurex, Euronext, CME, NSE, and Bovespa, with software and FPGA integration.
- Collaborated with FPGA and hardware teams to push latency boundaries at the nanosecond level.
- Provided direct production support for live HFT strategies, ensuring maximum uptime and minimal slippage.
- Designed and maintained core risk checks and order flow controls for production HFT.
- Development of large-scale distributed systems and service-oriented architecture
- Development of front-end solution for analysis and configuration of Financial 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

- Designed, developed, and optimized 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-based platforms.
- Delivered robust, production-grade embedded software for automotive clients, with a focus on performance, scalability, and maintainability.
- Collaborated on algorithmic design, system integration, and performance profiling across multidisciplinary engineering teams.
- **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 & Windows 10 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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