Erik-Jan van de Wal

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SUMMARY

Passionate software engineer with a deep expertise in **high-performance, reliable systems**. While Rust is my preferred language, my skills span multiple technologies, allowing me to design and implement **efficient, scalable solutions**. I thrive on exploring the inner workings of software, critically analyzing performance, and optimizing systems for **speed, robustness, and maintainability**. My focus is on building solutions that are not only powerful but also **elegant and enduring**.

EXPERIENCE

Founder | Software Architect & Engineer

Bytecorp   **July 2018 - Present, Remote**

· **Design & Development of a Self-Optimizing Cryptocurrency Trading Engine**: Built a sophisticated algorithmic trading engine designed for cryptocurrency exchanges, leveraging real-time data analysis to optimize trading strategies.
· **Adaptive Trading Algorithms**: Developed self-optimizing algorithms that dynamically adjust buy/sell strategies to mitigate extreme market volatility, ensuring risk-adjusted returns.
· **Risk Management & Profit Optimization**: Integrated advanced risk mitigation and profit optimization mechanisms to enhance trading performance and safeguard against market downturns.
· **Automated Execution & Market Adaptation**: Enabled continuous system-driven analysis, allowing the engine to autonomously execute trades and refine strategies based on evolving market conditions.
· **Investment Fund Deployment**: Successfully deployed the trading engine within an investment fund product, allowing individuals to gain exposure to cryptocurrency markets without requiring active trading expertise.
· **Scalability & Performance**: Designed the system to handle high trading volumes efficiently, ensuring low-latency execution and seamless exchange integration.

Software Architect & Engineer | Automated Energy Trading Specialist

Budget Thuis (formerly Energy Global)   **January 2017 - Present, Freelance, Remote**

· **Development of Real-Time Trading & Portfolio Management Applications**: Designed and implemented high-performance trading and portfolio management systems tailored for the European energy and gas markets.
· **EPEX SPOT Market Integration**: Built a robust Rust-based application for real-time data aggregation and trading on the EPEX SPOT market, leveraging the M7 WebSocket for continuous exchange communication.
· **Gas Grid Portfolio Management**: Developed an enterprise-grade portfolio management system for European gas grid operators, ensuring full compliance with EU regulatory standards and facilitating cross-border trading activities.
· **AS4 Migration Project Management**: Led the national AS4 migration for GTS and EDSN, overseeing the seamless transition to align with industry standards.
· **Scalability & Performance Optimization**: Developed low-latency, high-throughput trading solutions capable of processing large-scale market data with efficiency.
· **Market Integration & Automation**: Integrated with various energy market platforms, streamlining automated trading workflows and improving operational efficiency.
· **Recruitment & Team Leadership**: Actively involved in hiring and mentoring developers, structuring the development team, and introducing tools and processes to enhance workflow, collaboration, and development speed.

Founder & Lead Engineer

Codebeard (Freelance Enterprise)   **January 2014 - Present, Remote**

· **High-Performance Trading Systems**: Designed and implemented scalable, low-latency trading systems for commodity and cryptocurrency markets, ensuring speed, reliability, and fault tolerance using Rust.
· **Real-Time, High-Throughput Processing**: Developed real-time trading engines capable of processing large-scale market data and executing trades with precision and efficiency.
· **Algorithmic Trading & Automation**: Built secure, high-speed infrastructure optimized for algorithmic trading, enabling automated decision-making and execution.
· **Market Dynamics & Strategy Optimization**: Applied deep expertise in financial markets to develop adaptive trading solutions, refining strategies based on live data and analytics.
· **Custom Solutions for Trading Firms & Funds**: Delivered tailored automation solutions to enhance trading performance, integrating cutting-edge technologies to meet the demands of high-volume trading environments.

PROJECTS

RustDecimalCql – Rust Library (Author & Maintainer)

Codebeard · crates.io/crates/rust_decimal_cql · January 2025 - January 2025

· Developed `rust_decimal_cql`, an open-source Rust library providing ScyllaDB bindings for `rust_decimal::Decimal`.
· Created this library due to the lack of native ScyllaDB support for `Decimal`, enabling seamless serialization and deserialization.
· Implemented efficient and type-safe conversions, ensuring precise numerical storage and retrieval in ScyllaDB.
· Optimized for performance and compatibility, making it easier for developers to work with decimal-accurate financial data in Rust applications.
· Maintained and updated the library, incorporating community feedback and ensuring alignment with ScyllaDB's evolving API.

Binance Connect – Rust Library (Author & Maintainer)

Codebeard · crates.io/crates/binance_connect · September 2023 - September 2023

· Designed and developed `binance_connect`, an open-source Rust library for seamless interaction with the Binance API.
· Implemented secure and efficient API bindings, enabling low-latency trading, account management, and market data retrieval.
· Optimized performance and reliability, ensuring robust error handling and efficient request execution.
· Provided comprehensive documentation and examples, making it accessible for developers to integrate Binance services in Rust applications.
· Actively maintained the project, incorporating community feedback, updates, and improvements to align with Binance API changes.

Money2

PayPal · Associated with Webstudio MM- January 2012

· Developed an external application for PayPal that enabled Dutch users to instantly top up their PayPal balance using iDEAL, a widely used payment method in the Netherlands. The system facilitated seamless, real-time transactions, improving accessibility for Dutch customers. Due to its success, the solution was later integrated directly into PayPal's platform, streamlining the user experience and expanding PayPal's local payment options.

EDUCATION

Certificate, Ultimate Rust Crash Course

Udemy · July 2022

· Studied Rust fundamentals, including ownership, borrowing, and lifetimes to ensure memory safety without a garbage collector.
· Developed high-performance, type-safe applications, leveraging Rust's concurrency model and zero-cost abstractions.
· Gained hands-on experience with error handling, pattern matching, and trait-based programming.
· Explored systems programming concepts, using Rust for low-level development, embedded systems, and performance-critical applications.
· Worked on real-world projects, applying Rust's safe concurrency and efficient memory management to build reliable software.

Certificate, Docker Mastery

Udemy · 2018

· Studied Docker fundamentals, including containerization, images, and networking.
· Built and managed containerized applications, optimizing scalability and deployment efficiency.
· Gained expertise in Docker Compose, orchestrating multi-container applications for development and production environments.
· Explored advanced Docker topics, such as volumes, bind mounts, and persistent storage solutions.
· Worked with Docker security best practices, ensuring secure image builds and container isolation.
· Integrated Docker with CI/CD pipelines, automating builds, testing, and deployments.

Certificate, C Programming

Udemy · 2017

· Studied core C programming concepts, including data types, pointers, memory management, and file handling.
· Developed efficient, low-level applications, focusing on performance, optimization, and system-level programming.

Certificate, C++ / Unity Engine

Udemy · 2017

· Studied C++ fundamentals with a focus on game development and performance optimization.
· Developed interactive applications using the Unity Engine, leveraging C++ for game logic and performance-critical features.
· Learned game physics, rendering techniques, and memory management to optimize real-time applications.

70-630, Microsoft Office SharePoint Server 2007

Microsoft · 2009

· Studied SharePoint 2007 architecture, including site collections, web applications, and content management.
· Configured and managed SharePoint environments, focusing on document libraries, workflows, and user permissions.

· Implemented security best practices, including authentication, access control, and role-based permissions.
· Gained expertise in SharePoint Services, such as search indexing, business data catalog (BDC), and Excel Services.

ASNA AVR 8.0 for .NET, Field of Study
Amalgamated Software of North America · 2007
· Studied ASNA AVR 8.0, a .NET-based RPG (Report Program Generator) language, designed for modernizing IBM i (AS/400) applications.
· Learned application development using AVR for Windows and web-based environments, integrating RPG logic with .NET frameworks.
· Gained expertise in database access and UI development, focusing on IBM DB2 integration and Windows Forms/Web Forms.
· Explored migration strategies, enabling legacy AS/400 applications to transition to modern .NET-based architectures.
· Developed practical skills in programming, debugging, and optimizing AVR applications within the Microsoft .NET ecosystem.

CCNA, Networking
Cisco · 2004
· Studied fundamental networking concepts, including TCP/IP, subnetting, VLANs, and routing protocols (OSPF, EIGRP, BGP).
· Gained hands-on experience configuring and troubleshooting Cisco routers and switches.
· Learned network security principles, including firewall configurations, access control lists (ACLs), and VPN implementation.

ICT Academy
Albeda · 2004
· Completed a comprehensive 4-year ICT program, covering software development, networking, system administration, and cybersecurity.
· Gained hands-on experience in system administration, learning Windows Server, Linux, virtualization, and cloud technologies.
· Developed network management skills, working with Cisco networking, routing, switching, and security.
· Explored database management, including SQL, NoSQL, and data modeling for enterprise applications.
· Worked on real-world projects, applying software development, IT infrastructure, and security best practices in practical scenarios.

INVOLVEMENT

Ambassador – Yawenta Children's Center
Masego Soundsystem · March 2018 - Present
· Provide financial support to Yawenta Children's Center, helping fund facilities, healthcare, and education for orphaned and sick children.
· Allocate a portion of Masego Soundsystem Foundation's profits to sustain and expand essential programs and infrastructure.
· Raise awareness and organize fundraising efforts, ensuring long-term financial stability for Yawenta's mission.
· Leverage music and cultural initiatives to engage communities and promote social impact through the Masego Soundsystem foundation.

Founder - Masego Soundsystem
Foundation Masego · January 2010 - Present
· Established Masego Soundsystem, an independent, hand-built roots and dub sound system based in Rotterdam, Netherlands, dedicated to promoting UK sound system culture.
· Organized and hosted numerous events, including the Dubclub nights at WORM, featuring performances by renowned artists such as Iration Steppas, King Shiloh Soundsystem, Jah Shaka, and Dubkasm.
· Engaged in community outreach and cultural promotion, using music as a medium to foster unity and meditation, while supporting charitable initiatives like the Yawenta Children's Center through the Masego Soundsystem Foundation.

SKILLS

Industry Knowledge: High-Frequency Trading, Algorithmic Trading, Autonomous Trading Systems, Commodity Markets, Cryptocurrency Trading, Energy Markets, Power Trading, EPEX SPOT, Gas Grid Portfolio Management, Real-Time Market Data Processing, Software Architecture, High-Performance Computing, Distributed Systems, Rust Development, Systems Programming, Low-Latency Optimization, Database Design, API Development, Web Development, WebSockets, Blockchain Development, Smart Contracts, Peer-to-Peer Networking, Linux Server Administration

Tools & Technologies: Rust, Python, PHP, JavaScript, React.js, WebSockets, Node.js, SQL, ScyllaDB, CQL, PostgreSQL, SQLite, Redis, NoSQL, Docker, CI/CD (GitHub Actions, GitLab CI, Jenkins), Nginx, Prometheus, Linux, RabbitMQ, LLMs