SARTOGRAPHY

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Jon Herron

PRINCIPAL ENGINEER, PERFORMANCE TUNING

Seasoned Principal Software Engineer showcasing over 20 years of designing, developing, and optimizing high-performance software solutions for entrepreneurial start-ups and F500 companies, including Yahoo, EY, T-Mobile, and Northrop Grumman. Performance tuning expert with a track record of enhancing system efficiency and scalability through advanced profiling, code optimization, and architectural improvements. Passionate about fostering a collaborative environment and empowering autonomy to drive innovation. Committed to mentoring junior engineers, sharing knowledge, and promoting best practices across teams.

CAREER HIGHLIGHTS

- **Performance Improvement**: Achieved a 400% improvement in execution time for the SpiffWorkflow test suite.
- **Functionality Optimization**: Improved process traceability and error recovery times by implementing functionality for stepping back through previously executed BPMN diagrams.
- **User Experience Champion**: Developed and released the Yahoo iOS Mail application within 12 weeks, achieving a 0.02% crash rate, supporting over 10 million daily active users, and consistently ranking #1 in Productivity.

SKILLS & EXPERTISE

Performance Optimization | Systems Architecture | Software Engineering | Application Performance | Performance Testing | Code Profiling | Scalability | Load Balancing | High-Availability Design | Resource Management | System Bottlenecks | Database Tuning | Distributed Systems | Performance Metrics | Capacity Planning | Benchmarking | Systems Analysis | Debugging | | Reliability Engineering | Performance Monitoring | Code Refactoring | System Integration | Performance Benchmarks | Throughput | Latency Reduction | Performance Analysis | Capacity Optimization | Profiling Tools | System Upgrades | Algorithm Optimization | Efficiency Improvements

PROFESSIONAL EXPERIENCE

Sartography | Marietta, GA **2022 – Present**
Software Engineer

Performance Optimization

- Profiled and reduced execution time for Parallel Multi-Instance Tasks ~40% overall by boosting performance and scalability.
- Achieved a 400% improvement in execution time for the SpiffWorkflow test suite minimizing feedback cycles during development.
- Improved codebase maintainability and build times by refactoring code to remove circular imports between core and BPMN layers in SpiffWorkflow.
- Reduced message processing time 50% by optimizing the definition and usage of Messages within diagrams.

Functionality Enhancement

- Increased user adoption (700 member community, 1600 GitHub Stars) and reduced development time for new features by developing and enhancing open-source libraries and applications based on BPMN.
- Expanded integration capabilities and increased system interoperability by adding functionality for Service Tasks to enable BPMN diagrams to communicate with any third-party system with an API.
- Improved process traceability and error recovery times by implementing functionality for stepping back through previously executed BPMN diagrams.
- Minimized data synchronization issues by adding support for Data Stores to enable persistent storage and communication between BPMN diagrams, enhancing data consistency and integration.

Development and Integration

- Improved real-time data processing capabilities for clients by designing and integrating support for streaming events from the backend to reduce data latency.
- Designed and implemented a service that isolated client-specific dependencies, allowing for querying of supported actions for every client and maintaining backend agnosticism.
- Created a Docker-based development environment that reduced local setup time to a single command and

accelerated development workflows for a team of 10 engineers and a community of over 300.
- Enabled the use of Spiff Arena as a local BPMN editor that improved the development experience and tool accessibility and increased productivity for BPMN diagram creation.

Onalu | Marietta, GA **2021 – 2022**
Software Engineer
- Designed and implemented a modular domain-specific language architecture for a low-code application using TypeScript and fp-ts, enabling flexible representation and serialization based on user needs.
- Reduced user authentication errors by developing and integrating a secure magic link sign-up/sign-in flow to streamline the login process.
- Minimized application misuse incidents and improved system reliability by introducing usage monitoring and abuse prevention mechanisms.
- Contributed to the development of a robust mutation validation subsystem that enhanced data integrity through shared validation logic between client and server.
- Initiated and promoted 'The Gambit,' a grassroots movement for team knowledge sharing, leading to boosting team proficiency with advanced codebase elements and functional programming techniques.

Yahoo!/Yahoo/Oath/Verizon | Atlanta, GA **2008 – 2021**
Senior Principle Engineer, Partnerships/Mobile: 2016 – 2021
- Developed and released the Yahoo iOS Mail application within 12 weeks, achieving a 0.02% crash rate, supporting over 10 million daily active users, and consistently ranking #1 in Productivity.
- Created a custom C application to reduce iOS Mail build times from minutes to under one minute, using libclang for parsing, greatly boosting team productivity.
- Reduced local build times for iOS Mail by 45 seconds by implementing custom versions of Apple's ibtool and actool.
- Designed and developed a custom Swift application to parse serialized AST nodes, enabling codebase auditing without libclang, improving accuracy in multi-language comparisons, and supporting whole program analysis.

Director of Engineering, Mobile: 2008 – 2016
- Achieved a 100% approval rating from team members in corporate annual surveys while meeting key quarterly and annual business goals.
- Attracted 5 high-performing internal transfers by showcasing team growth and opportunities.
- Empowered team members to innovate by encouraging risk-taking, leading to routine patent filings, feature pitches, and cross-team architecture discussions.
- Facilitated weekly Team Hour sessions, where team members presented on design patterns, data structures, algorithms, and new language features.

ADDITIONAL EXPERIENCE

Senior Developer at T-Mobile: 2008
Senior Developer at ChoicePay: 2007 – 2008
Developer at USIS: 2007 – 2008
Consultant at Ernst & Young: 2006
Developer / Team Lead at Dollar Thrifty Automotive Group: 2004 – 2006
Consultant at Dollar Thrifty Automotive Group for MTM Corporation: 2003 – 2004
Programmer at Music Today: 2002 – 2003
Programmer at Northrop Grumman: 2001 – 2002
Programmer at Prime Meridian Software: 1999 – 2001

PATENTS

- **US9146842**: Designed and developed a custom C application to automatically generate unit tests for applications, saving numerous hours during codebase changes.
- **US20160124799**: Created a system for deploying targeted fixes to mobile users encountering crashes.
- **US8965909**: Developed a real-time group chat application with an optimized type-ahead search method to improve performance.
- **US8250077**: Implemented search assist functionality for intra-application search, leveraging MySQL and custom logic to enhance result sorting and ordering.

TECHNICAL SKILLS

Python, Rust, Go, C, Forth, Objective-C, Swift, Docker

INTERESTS

Hiking, Cooking, Chess, Gaming with the kids