Johnathan J. Flaggs

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Software Architect with a focus on backend system development for fintech and robotics applications. Successful record of leading projects from proof of concept into production. Professional references available upon request.

Education

University of California, Riverside & Davis **Sep. 2010-Jun. 2014**

- UCR: BSME with concentration in Control Theory under Department of Mechanical Engineering (BCOE)
- UCD: Control Theory Concentration under Department of Mechanical and Aerospace Engineering

Technical Toolset

Development Languages & Environments:

▪ Visual Studio	▪ Codeblocks	▪ SVN/GIT	▪ Batch Script	▪ Node.js
▪ Atmel Studio	▪ C, C++	▪ C# .NET	▪ MATLAB	▪ HTML, CSS, JS
▪ RSLogix/FactoryTalk	▪ Beckhoff TwinCAT	▪ MagneMotion	▪ Fanuc Robotics	▪ Cognex Vision

Professional Experience

Vice President, Engineering at Lighthouse Digital **Jun. 2020-Present**

Leading software architecture and development for a proprietary loan liquidations platform. The platform allows global users to participate in liquidation markets and hosts a proprietary Smart Liquidation Algorithm to provide liquidity into the markets.

- **Designed** and trained a predictive model to compete in a time-only based order book
- **Lead** the design of macro and micro software architectures which define the core product
- **Advised** CEO on market trends, competition, and macro-economic factors that impact company direction
- **Consulted** for Anchor (TFL) on improving their liquidation order book
- **Contributed** strategic decisions on product features and business operations that determine company direction
- **Managed** and mentored a team of Sr. and Jr. level developers on approaching complex problems and coding standards
- **Anticipated** and mitigated the impact of 3rd party and vendor API changes on the software layers
- **Hosted** quarterly meetings for investors and partners on the status and development path of our products
- **Advised** and worked with the CEO to implement market strategies, raise funds, and allocate resources
- **Enforced** OOP and heavy emphasis on robustness, scalability, maintainability, and design patterns
- **Anticipate** and mitigate the impact of future design changes on the software layers
- **Manage** and review version control on a per-commit basis
- **Created** jobs, conducted technical screening, and helped develop an onboarding process for new-hire's
- **Allocate** and manage budgets for hiring, infrastructure, investors, and reserves

Professional Experience

Director of Engineering at Satsy Algorithmic Trading **Mar. 2019-Jun. 2021**

Lead development of an algorithmic trading platform and backend core which integrates multiple brokerage API's for live, simulated, and historical trading/analysis. The platform is multi-threaded and supports many unique features that are not available via popular retail trading platforms.

- **Developed** a custom charting solution for rendering up to 250k data points in view and > 2M points in memory
- **Lead** a non-technical team of 5 including CPAs and traders to translate their requirements into working features
- **Developed** an easy-to-use strategy/indicator language that is unlimited in extensibility
- **Multi-Threaded** C# application allows real time data streams and an intuitive trader-first UI
- **Created** a thread-safe real-time library for advanced mathematics using time series data
- **Low-Latency** execution C# library benchmarked against C/C++ for performance testing
- **Modular** core architecture allows any UI technology to consume the Satsy backend service
- **Supports** trading with brokerages including TD Ameritrade, Binance, Gain Capital, and Simulated data feeds

Lead Robotics Software Engineer at Seagate Technology **Mar. 2017-Mar. 2019**

Developing software for cutting edge processes in digital storage technology. My contributions include:

- **Windows C# .NET** proprietary machine and vision process controls
- **Support** core vision libraries in C/C++
- **Cognex** VisionPro API integration
- **Machine-Vision Calibration** to establish precision robot coordinates
- **Motion Control** Kinematics, pick-n-place, multi-axis coordination, Quantum HSM framework
- **User Interface** Allowing users to fluidly interact with the multi-threaded application
- **Version Control** Using SVN, TFS and Agile/Scrum using Jira
- **OOP** Heavy emphasis on encapsulation, inheritance, polymorphism, and robust design patterns

Retail Trade Systems Developer **Jan. 2016-Mar. 2018**

Developed discretionary and semi-automated trading systems as a self-funded trader. It was during this time that I developed a systematic approach to analyzing and trading in the financial markets.

- **Developed** indicators and strategies using Tradestation EasyLanguage
- **Built** a framework built on NinjaTrader 8 to feed my statistical models hosted in an external C# .NET application
- **Scripted** analysis tools for statistical research in MATLAB, C++, and .NET to find an edge in price data

Lead Controls Engineer at Sorenson Engineering Inc. **Sep. 2014-Mar. 2016**

Leading controls software development for high-volume manufacturing. I developed core software and worked closely with Mechanical Engineers to build proof of concept products (R&D environment).

- **Fieldbus Integration** – Integrating third-party hardware/software nodes into a controls network
- **Motion Control** – Kinematics, motor sizing, pick-n-place, multi-axis synchronization, and axis coupling
- **Vision Inspection** – Driving digital cameras (Cognex, Baumer/VeriSens) via native C++ SDKs
- **Eliminated** need for expensive camming software license and a measurement sensor.
- **Increased** machine PPM by decreasing rotor inertia ratio by 140% for tighter position control (VSIII)