Pralay Patoria

Mobile: 9136994914
ppatoria.jp@gmail.com
LinkedIn Profile

Objective

Highly skilled and accomplished Senior Software Developer with around 18 years of experience in Investment Bank front office operations seeking a challenging position to utilize expertise in software development and leadership as a Vice President.

Summary

- Highly skilled and experienced C++ developer with around 18 years of experience in the investment banking domain.
- Expert in electronic trading, algorithmic trading frameworks, and distributed applications.
- Proficient in low-latency programming, metaprogramming, Linux, FIX, TCP/IP, and UDP/Multicast.
- Strong problem-solving and client relationship management skills.

Technical Skills

```
- Languages                                : C++, Python, Rust (Beginner)
- Frameworks/Libraries                     : STL, BOOST, POCO, GTest, GMock, Catch2, FakeIt
- Messaging Systems and Network Protocols  : UM/LBM, EMS, TIBCO Rendezvous, TCP/IP, UDP
- Scripting                                : Perl, Bash, Lua
- Source Control                           : GIT, SVN, HG
- Continuous Integration                   : TeamCity, Jenkins
- Database Servers                         : Oracle 12g, Sybase 15 and 12.5, MySQL 5.0, KDB
- Operating Systems                        : Linux, Windows
- Tools                                    : Conan, Make, CMake, Ninja, GDB
- UML                                      : Enterprise Architecture, Visio, PlantUML
- Domain knowledge                         : Equities, fixed income, securities reference & market data.
- Financial Application Layer Protocols    : FIX 4.2
```

Experience

Vice President - Algo Developer | BNP Paribas USA | December 2022 - March 2024

`Tools: C++20, Boost 1.73, Python 3.8, KDB, UM/LBM. GIT`

- Developed an interface with Python modules, leveraging the C++ Boost Python library, to enable calibration and application of heuristic techniques for Python-based trading strategies in equity trading. This transition from Lua-based strategies to Python-based strategies provided access to a feature-rich programming language, resulting in expanded capabilities and improved flexibility for strategy development.
- Developed a trading platform that holds the core strategy component, inputs the market data, and outputs the trading signals to markets for execution. This platform significantly enhanced scalability and improved overall trading system efficiency, resulting in reduced trade latency and improved execution speed compared to previous implementations.
- Contributed to designing and developing software solutions for front office operations in the investment bank help enhance trading performance and achieve competitive advantage.
- Collaborated with stakeholders to gather requirements and translate them into technical specifications.
- Implemented software development best practices to ensure code quality, scalability, and maintainability. Enhanced automated testing frameworks that increased test coverage and reduced the number of production issues.

Senior Software Developer | Liquidnet Holdings, Inc USA | August 2022 - November 2022

`Tools: C++17, Boost, Python 3.8, UM/LBM, GIT`

- Part of development of an Investment Bank's trading strategies, contributing to the implementation and optimization of a rule engine using Boost.Spirit. This rule engine enabled efficient parsing, evaluation, and execution of trading rules, resulting in significant improvements in trading strategy performance and operational efficiency.
- Improved system performance and efficiency through enhancements and optimizations.
- Collaborated with cross-functional teams to understand requirements and deliver tailored solutions.
- Actively participated in code reviews and provided constructive feedback to improve coding standards.

Assistant Vice President and Senior Software Developer | Credit-Suisse USA | Mar 2012 - Jul 2022

`- Sep'18 - Jul'22: Credit-Suisse NY, USA`
`- Apr'14 - Aug'18: Credit-Suisse Wroclaw, Poland`
`- Mar'12 - Mar'14: Credit-Suisse Pune, India`

`Tools: C++17, Boost, python 2.7, 3 UM/LBM, SVN`

- Collaborated in the implementation and enhancement of a comprehensive C++ framework for algorithmic trading, encompassing multiple components to improve trading functionality and efficiency. Key contributions include:
  - Played a significant role in developing and optimizing the order management system component, resulting in improved order execution and reduced latency in order processing. This involved collaborating with the team to design and implement efficient order handling mechanisms.
  - Contributed to the enhancement of the rule engine component, optimizing its performance and reliability. Collaborated with the team to fine-tune the rule evaluation process, resulting in more effective trading strategies and improved decision-making capabilities.
  - Worked alongside the team to implement an interoperability component, facilitating seamless integration with Lua-based strategies. This allowed for the utilization of both Lua and C++ strategies, leveraging the strengths of each language for optimal trading performance.
  - Assisted in the development of a data management component, enabling efficient retrieval and caching of static data during initialization. This collaborative effort improved data access speed, enhancing the overall efficiency of strategy execution.
  - Contributed to the real-time market data integration, ensuring the continuous update of strategies with the latest market information. Collaborated with the team to integrate data feeds and optimize the data processing pipeline, resulting in improved strategy performance and responsiveness.
  - Participated in the integration of a dark pool component within the rule engine, enabling the diversion of certain trades to dark pools when appropriate. This collaborative effort expanded trading execution options and potentially improved trade execution quality.
- Developed a high-performance market data adaptor in C++ to connect with major financial exchanges, utilizing the FIX (Financial Information eXchange) protocol.Implemented robust parsing logic to handle binary data feeds, ensuring accurate and efficient extraction of market data.
- Migrated the build system to Conan/CMake for improved dependency management and cross-platform build.
- Ported C++ framework for algorithmic trading to the EMEA environment, integrating market and static data services.
- Designed and developed API for product lines to connect to the exchange connectivity system.
- Led team in designing and developing scalable client API for order management system.
- Developed client application for compliance checking of orders.
- Developed Short Sell Locate application used by the stock loan desk to locate and approve US securities.

Previous Experiences

`- Senior Software Developer | ITCAN Pte Ltd., Singapore | Nov'08 - Mar'12`

- Team Lead | Computech Enterprise Solutions (USA/India) | Jul'05 - Oct'08
- Software Engineer | Lambent Technologies Pvt. Ltd., Nagpur | Mar'04 - Mar'05
- Computer Lexicon Associate | MGAHV, Lucknow | Dec'02 - Feb'04

Major Projects:
- Post-trade feeds: Developed and maintained Post-trade feed applications that follow the Straight Through Process (STP) to retrieve trade data from Bloomberg and other electronic exchanges using the FIX Protocol.
- FixEngine: Developed and maintained FixEngine, a generic library that implements FIX Protocol 4.2, manages the session-level protocol and providing an interface for application messages.

Education

- Master of Computer Applications | GHRIIT Nagpur University, India | Year 2002