

**IONEL VASILESCU**  
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## OBJECTIVE

Seeking to apply my skills and experience for maximum impact, share my knowledge with other team members and improve myself by learning new technologies, processes and subject matter.

## EDUCATION

Bachelor of Science, Math and Computer Science, U of Illinois at Urbana/Champaign

## SKILLS

- Primary Programming Skills: C++, OOD/A, design patterns
- RDBMS: Microsoft SQL Server, Sybase & MySQL
- SDLC: Wrote requirements for small to large projects
- Capital Markets: US/CA markets, FIX, TBF/ITCH feeds  
Front-/middle-office P&L recon, risk monitoring, ETF decomp
- Client/server technologies: HTML, CSS, JScript; ASP, PHP; LAMP
- Scripting/other: Perl, Python, awk, Win PowerShell, bash, Java
- OS platforms: Windows, Solaris, Linux (RedHat, SuSE)

## WORK EXPERIENCE

**RBC Capital Markets**, Toronto ON, Jan 2018 - current

*Senior Software Developer*

C++ development of low-latency order entry

Projects: **Canadian/US equity/derivative order routing/management**

Responsibilities: Design, develop, unit test and deploy software for our front office and middle office.

Technical accomplishments: C++ development on Linux for low-latency order entry market connectivity for equities and futures (e.g. BARX/THOR algos, US/Canadian venues, ITG SOR), FX (e.g. Fastmatch) and bonds (e.g. Tradeweb). Additions to C# GUI and C++ Server components for entering trades. Modification of Perl modules for OATS/FINRA reporting and coordination with CAT transition. Migration of Sybase DB provisioning to Solace feed. Decomposition of Canadian ETFs (including funds of funds) using scripts, SQL Server and C++. Used SVN and github for code repos, JIRA for tracking work, Github for code reviews, Jenkins for automating builds and regression.

**Canadian Pension Plan Investments**, Toronto ON, Nov 2015 - Jan 2018  
*IT Specialist*

VC++ middleware development on Windows, Python/OneTick/scripts/mySQL on Linux:

**Projects: FIX Engine C++ library, Compliance Engine, Short Sell Marking, OneTick**

**Responsibilities:** Design, develop, unit test and deploy software for our front office and middle office.

**Technical accomplishments:** Developed multi-threaded high-performance C++ library that provides C++ clients a FIX interface to Itiviti/Cameron's Catalys Node FIX engine (Java-based). Developed Compliance Engine application (and client API) that connects front office C++ and VBA clients to Bloomberg's Compliance Manager module via Bloomberg's FIX AIM interface. Developed Short Sell Marking application (and client API) that provides long/short marking of global equity sell orders for the front office C++ clients (via sockets) by interacting with back-office inventory systems (via multicast and SQL queries). Developed OneTick loaders for FIX FX streaming quote logs and split OneTick's BPIPE collector into separate collectors (one per asset class) by enhancing the BPIPE ticker/field subscription to use mySQL DB for easy client input (with a Python bridge between the mySQL DB and the OneTick BPIPE collectors).

**Training:** CSC's Derivatives Fundamentals Course.

**TD Securities**, Toronto ON, May 2010 - Nov 2015

*Senior Software Engineer*

C++ middleware development on Windows (XP/2003) & Linux (RHEL5.x):

**Projects: Canadian/US equity/derivative order routing/management**

**Responsibilities:** Design, develop, unit test and deploy software for equity/derivative order routing; business analysis for order routing and post-trade applications; lead small team of developers

**Technical accomplishments:** Developed C++ software that routes equity and derivative orders between clients and markets with persistence/recovery to/from SAN file system and SQL DB. Wrote modules for a smart order router application that manages real-time Canadian market feeds (using NYSE's Wombat/MAMA with Tibco Rendezvous middleware) and routes orders via FIX connections to Canadian markets (TMX, CHI-X, Pure, Aequitas, Omega, TriAct; MX). Wrote TBF and NITCH feed processors and STAMP to/from FIX converter applications. Assisted production management team with deployments, provided support to our clients and internal risk monitoring team.

**Training:** Business Analysis Essentials, High Impact Coaching, Finance Essentials, various compliance modules (security, privacy, AML, etc).

**Infinium Capital**, Toronto ON, Jun 2007 - May 2010

*Senior Software Engineer*

VC++ GUI/middleware development on Windows 2000/XP:

Projects: **Custom arbitrage trading strategy engine and risk monitoring tools**

Responsibilities: Design, develop, unit test and deploy software in rapid cycles. Tech lead on rapid-turnaround projects.

Technical accomplishments: Developed VC++/MFC/STL/boost software that manages market feeds, orders, trades and implemented arbitrage trading engine. Augmented exchange simulator with market data feed and ADO-based MySQL connector. Wrote C library to provide socket-based interface to strategy logic layer. Wrote multicast client/server for processing market feed data. Wrote Perl scripts to parse quote/trade logs and validate strategy logic.

Wrote Bloomberg and RealTick API application/script DTS suite for processing LIBOR rates and Merrill Lynch Clear reports and loading the processed data into a MySQL database. Contributed to DB schema design and implemented middleware software for providing cost analysis features in a risk monitoring system. Wrote software that tracks risk and profitability in various equity, equity basket and equity option strategy portfolios.

**E\*Trade**, Toronto ON, Nov 2006 - Jun 2007

*Software Engineer*

C++ middleware development on Solaris 5.9:

Projects: **FIX Server and CMS Server**

Responsibilities: Design, and write requirements. Develop software. Support production deployments.

Technical accomplishments: Developed CMS and FIX protocol 4.x data processing software using C++ and Sybase SQL queries. Modified QT test suite for FIX counterparty simulation.

Training: Financial markets basics.

## REFERENCES

Available upon request.