

# Resume of Louis Newstrom

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## SUMMARY

I am a Software Engineer with a scientific background.  
I increase the productivity of others, by giving them simple interfaces to powerful algorithms.  
(Think of what a calculator does for people.)

Examples include:

- Libraries for non-mathematicians to do complex calculations.
- Libraries for non-GUI developers to create GUI interfaces.
- Libraries for non-database developers to use, store, and search data.

## EDUCATION

- Master of Arts in Management and Leadership from Webster University
  - Delta Mu Delta (International Honor Society in Business Administration)
- Bachelor of Science in Computer Science from Rollins College

## CLEARANCES

- I have been cleared for access to Secret, Top Secret, and SCI information.

## SKILLS AND TOOLS

<u>Project Management</u>	<u>Design</u>	<u>Development</u>
Estimating	Object Oriented Design	C++
Scheduling	Databases	HTML
Project Tracking	Libraries	Java
	Embedded Systems	JavaScript
	Distributed Systems	Matlab
	SysML and UML	PHP
		Python
		SQL

## EXPERIENCE

**Senior Staff Software Engineer** for V2X (Mar 2024 - now)  
at the Air Force Technical Applications Center (AFTAC)

**Staff Software Engineer** for Northrop Grumman (Aug 2016 - Dec 2023)  
at the Manned Aircraft Design Center Of Excellence  
on the B-21 program

- developed complex algorithms
- documented much of the Operational Flight Program (OFP) with UML
- used C++, Python, and UML on a Linux platform
- used Bamboo, Bitbucket, Confluence, JIRA, Matlab, Rhapsody, VectorCAST

**Software Engineer 5** for Electronic Arts (Mar 2015 - Jan 2016)

- investigated hacking events reported by Madden Ultimate Team customers
- automated detection of hacking activity within the Madden Ultimate Team game
- developed web tools to display forensic and historic logs for the Madden Ultimate Team game
- used LAMP stack (Linux, Apache, MySQL, PHP), Collaborator, JIRA, Perforce

**Software Engineer 5** for Global Engineering Management and Support (Apr 2011 - Apr 2014)

- led quality control team for verification of software for running automated test systems
- wrote test software for embedded systems
- maintained MySQL and SQL Server databases
- developed pathfinding and routing information for automated test systems
- developed language translation algorithms to automate translation of obsolete language test code into Test Stand
- used C, C++, LabView CVI, Test Stand, Subversion on a Windows platform
- used LAMP stack (Linux, Apache, MySQL, PHP), JavaScript on a web browser platform

*(Webster University)*

**Software Engineer 5** for Quantum Technology Sciences (Jan 2007 - May 2009)

on the National Data Center

supporting the Comprehensive Nuclear-Test-Ban Treaty

- managed 5 person team to automate detection of nuclear events
- designed library so non-database programmers can access Oracle database
- designed library so non-X Windows programmers can write X Windows GUIs
- developed digital signal processing tools
- used C, C++, and MatLab on Sun Solaris UNIX platform
- used ClearCase, ClearDDTS, Oracle Database, UML

**Security Engineer** for Science Applications International Corporation (Nov 2006 - Dec 2006)

on the Federal Enterprise Architecture

- updated security procedures for the National Archives to reflect changes in NIST standard

**Senior Software Engineer** for Northrop Grumman (Dec 2005 - Aug 2006)

on the Joint Unmanned Combat Air Systems project

on the Information Warfare IR&D project

- designed library so non-socket programmers can write communications software
- developed route algorithm for autonomous unmanned combat air vehicles
- developed methodology for information warfare attacks and defense
- used Visual C++ on Windows platform to write embedded code
- used Rational Rose

**Security Engineer** for Science Applications International Corporation (Jul 2005 - Sep 2005)

on the Federal Enterprise Architecture

- wrote security procedures for the National Archives
- derived traceability matrices for requirements
- designed audit procedures for security audits

**Senior Firmware Engineer** for Bally Gaming (Jul 2004 - Feb 2005)

on the Alpha Game System

- maintained and updated a tamper resistant operating system
- developed secure communications protocols
- used C on Linux platform to write embedded code

**Senior Software Engineer** for Raytheon (Jan 2004 - Jun 2004)

on the Next Generation Destroyer program  
on the Integrated Under Sea Warfare program

- designed library for database access
- developed database initialization routines
- ported task scheduler from Java to C++ to improve reliability and availability
- used C++, Java, and CORBA on a Sun Solaris UNIX platform to write embedded code
- used Oracle Database, UML

**Senior Software Engineer** for COBRO (Oct 2003 - Dec 2003)

on the Special Operations Aviation Maintenance Support System

- designed and developed databases
- automated import of data from Word and Excel documents into databases
- used Visual Basic on a Windows platform
- used Access Database, Excel, Word

**Engineer Specialist** Northrop Grumman (Nov 2001 - Sep 2003)

on the Theater High Altitude Area Defense program  
on the Medium Extended Air Defense System program

- developed battle monitor and control software
- developed databases for battle plan and situation display data
- developed access control to battle plan and situation display databases
- developed test simulators for distributed components
- used C++ on a Sun Solaris UNIX platform to write embedded code
- used Rational Rose

**Senior Software Engineer** for ImageLinks (May 2001 - Aug 2001)

- designed and developed image tiling algorithm for large mosaics
- designed and developed image manipulation algorithms
- used C++ on a Linux platform
- used WxWindows

**Senior Technical Staff** for DBA Systems / Titan (Aug 1997 - May 2001)

on the Modern Imagery Exploitation System program

- managed 3 person team to develop on-line training for Imagery Analysts
- wrote procedures that brought company to CMM level 2 and ISO-9000 certifications
- presented status to military customer
- designed CGI server for web pages
- designed web based access control of databases
- developed database for storage of large (>1Gb) satellite images
- ported C++ programs to Java
- used C++, Java, and CORBA on a Sun Solaris UNIX platform
- used Rational Rose, Sybase Database

**Senior Software Engineer** for Harris (Mar 1996 - Aug 1997)

- developed algorithms for trajectory interception and prediction
- designed and developed aircraft tracking software for an air traffic control system
- designed and developed network communications drivers
- used C++ on a Sun Solaris UNIX platform
- used ClearCase, Clear DDTs, CMM level 3, Rational Rose, TCP/IP sockets

**Senior Software Engineer** for Treadcon (Jul 1994 - Sep 1995)

- led team of 5 to create embedded real-time software for an industrial refrigeration control system
- designed and developed fax modem control algorithms
- designed GUI for embedded system
- used C on an embedded code

**Software Engineer** for Martin Marietta (Oct 1993 - Nov 1993)

- designed and developed report generators
- used FORTRAN, SQL
- used Oracle Database

**Systems Analyst** for Pan Am / Johnson Controls / Computer Sciences Raytheon (Nov 1987 - Jul 1993)  
on the Launch Base Support project

- designed and developed generic menu-driven report generators
- designed and developed databases
- designed and developed network access to databases
- maintained over 100 PC's
- used Basic, C, Clipper, COBOL, DBase, SQL on Windows platform using a Novell network
- used Lotus 123, Oracle Database, WordStar

*(Rollins College)*

**Programmer** for Harris (Nov 1983 - Feb 1985)

on the Navy Extremely High Frequency Satellite Program

- developed satellite tracking software
- developed oceanic wave prediction and compensation software
- used FORTRAN on a UNIX platform
- used VisiCalc