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## Software Engineer

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- Contributor to the design, development, and delivery of two commercial grade VoIP applications (soft phone and PTT) on Android platform in use by 65,000 users in a large well-known home hardware retail chain.
- Maintenance and development of key audio handling components of mission-critical VoIP dispatch systems deployed by public safety, first responders, and large segments of transportation (trains and airlines), and government sectors.
- Delivery of new features and critical improvements in highly visible customer service call centers in support of very large segments of public and private sector health insurance.
- Developed data encryption libraries and abstraction layers for NIST approved, FIPS compliant, encrypted file transport system tested for use by NASA and US Treasury.
- Modifications and feature enhancements to high availability server clusters and data replication systems used in business continuity and disaster recovery plans in countless businesses, government, and military implementations around the World.
- Senior engineer developing 64-bit filesystem to operate on top of 32-bit platform supporting file sizes greatly exceeding limitations of the underlying filesystem.
- Contributed to new features and improvements in controlled access security systems in operation in many well-known large businesses and airports such as Baltimore-Washington International and Dallas Fort Worth.
- Development and testing of board/chip bootstrap routine to bring up i960C hardware and load pSOS embedded kernel.

Areas of Expertise/Interest	VoIP/streaming audio, RTP and SIP/SCCP, Android/mobile platforms, data security and integrity
Programming Languages	C/C++, Java, Ruby, Assembler (Intel x86, i960 and Zilog Z80)
Operating Systems/Platforms	Android, Linux/Unix, Windows, OS/2, VxWorks, pSOS, VRTX
Open Source Projects	author and maintainer of rtp.jitter contributor to droid VNC server

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## Employment History

### Thundernet Development Group

1991 – present

Remote/independent software development

**IP blue Software Services**, 2013-present. Focused exclusively on the development of commercial grade VoIP applications on mobile platforms, primarily Android.

- Development of socket libraries for both Android and WindowsPhone8.
- Design and development of abstract call and packet handling layer
- RTP jitter buffer, and audio engine integration.
- “Ownership” and maintenance development of UI for multiple applications.

Technologies: Android, C++, Java, SCCP “skinny” and SIP, RTP, VoIP, Wireshark

### Interactive Media Marketing / Miley Cyrus, 2008.

- Design and development of J2ME mobile application for image capture and upload.
- Development of async remote logger and data-collecting web service.

Technologies: Sony Ericsson J2ME, Java

### Two Dimensional Instruments, 2003.

- Debugged and documented embedded system on 8051 platform.

Technologies: C, 8051, Z80 assembly, RTOS embedded system.

Avtec produces mission critical IP-based dispatch consoles for VoIP and legacy radio systems.

- Deliver a ground-breaking new product driven by customer needs in a way that can also be deployed to other customers and industries.
- Expand existing feature sets to meet evolving market demands.
- Implement and validate a new external API on an existing product to enable lucrative partnerships on large projects in expanding markets.

Technologies: C, C++ (with Boost and STL), SIP, RTP, VoIP, Wireshark, WASAPI, VxWorks

### Avtec, Inc. 2010 - 2013

**SteelEye  
Technology**  
2008 – 2010

SteelEye produces business-continuity and disaster-recovery solutions using high availability and data mirroring technologies for enterprise customers based on Linux and Windows platforms.

- Implemented new products and features that reached into new markets and enabled greater synergies with Microsoft.
- Improved existing products to defend market share from encroachment by competitors.
- Drove engineering innovation through research into other areas including virtual storage and filesystems, RESTful APIs, data deduplication, etc.
- Developed command shell for RESTful control of Linux clustering product.
- Evaluated technology of file-based data mirroring product for potential takeover.

Technologies: C, C++, Java, PERL, bash, kshell, Ruby, Windows, Linux

**BlueCross  
BlueShield of SC**  
2004 – 2008

BlueCross BlueShield of SC is a major insurance company utilizing very large enterprise data processing systems for customer management, call center support, and claims processing.

- Became the resident expert for design, development, and maintenance of a call center application supporting large multi-million dollar national TriCare service contract.
- Provided management with greater visibility and understanding of system health through innovative new diagnostic and reporting tools.

Technologies: Java, JavaScript, HTML, XML, Ruby, SQL, DB2, MySQL

**Yum! Brands**  
2002 – 2003

Yum! Brands is the world's largest restaurant organization owning the KFC, Taco Bell, Pizza Hut, Long John Silver, and A&W brands.

- Improved reliability and ease-of-use issues for legacy OS/2-based point of sale systems.

Technologies: C, C++, VB, OS/2, Windows

**Securit-e-Doc**  
2001 – 2002

Early stage start-up developing a highly secure messaging and document transport system used by government, intelligence, and military organizations.

- Broke through 32-bit Windows filesystem limitations with library and API for storing massive files of unlimited size.
- Provided needed expertise to develop system-level components.
- Implement/integrate data encryption algorithms.

Technologies: C, Linux, Windows, Java, CGI

**Allidex**  
2000 – 2001

Allidex was an early stage start-up innovating in the emerging Business-to-Business market.

- Engineered flexible scripting protocol that enabled business partners to seamlessly integrate systems and realize significant cost and time savings.
- Managed team of 4 developers providing software development leadership.
- Authored technology white papers, coding standards documents, and performance guidelines in support of capital acquisition activities.

Technologies: Java, J2EE, Linux, Oracle, XML, UML

**Fusive.com**  
1999 – 2000

Fusive.com brought new distributed systems to large corporations through development of custom large-scale web applications.

- Turned around failing projects through direct customer contact and successful management of distributed project teams.
- Architected distributed multi-tier systems unlocking potential for greater leverage and development team specialization.
- During turbulent technological times, researched and assessed alternative technologies.

Technologies: Java, JSP, Unix, Windows, SQL Server, Sybase, XML, Microsoft Project.

**EDS / MCI  
Systemhouse**  
1997 – 1999

Systemhouse was the systems integration and professional services arm of MCI later sold to EDS.

- Developed reusable project plans and managed project build/test cycles.
- Develop strategies and prototypes for multi-tier systems.
- Develop components of GUI front-end for distributed transaction processing system.

Technologies: Java, Java Servlets, Forte, Windows, Oracle, UML, Microsoft Project.

**Early Career**

1987 – 1997

Previous positions include increasingly senior development roles for numerous companies including AIWA/Core Engineering, Siemens Stromberg-Carlson, IBM, and CASI-Rusco.

- application-level software for device administration.
- CGI-based Internet applications
- DOS device drivers and system services
- data collection and related database applications
- embedded systems

Technologies: C, C++, SQL, Assembly, DOS, OS/2, Windows, Unix, VRTX, pSOS, DB/2

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**Education**

Post Graduate Study in Computer Engineering. Florida Atlantic University. 1991

B.A. Computer and Information Sciences. State University of New York at Potsdam. 1987