**Ronald Bazillion**

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[Linkin online resume](https://www.linkedin.com/in/ron-bazillion-408a6a1)

An accomplished Software Engineer who specializes in Object Oriented Design, Coding and Debugging with extensive experience in the full life cycle of the software engineering process which includes: requirements definition, proof of concept, design, coding, unit and system testing.

**SKILL HIGHLIGHTS**

**Programming** **Languages:** C++, C, C#, UML, Assembly, QT, XML

**Scripting Languages:** Python

**SW. Design Patterns:** Singleton, Adapter, Observer

**Microprocessors:** ARM9TDMI, TIMSP2553 MCU

**Operating Systems:** Embedded Linux, Nucleus, UNIX, Windows

**Libraries:** Boost, C++ Standard libraries

**Applications:** Clearcase, Subversion, Visual Studio, Wireshark, IAR Workbench, TI Code Composer, Version One

**Protocols/Standards:** TCP-IP, UDP, IPV4, ASN1, DMR, MOTOTRBO, APCO25, JTRS, Bluetooth, CORBA

**Military Waveforms:** Sincgars, Dama, Vulos, SRW, ANW2, Havequick

**Software Processes:** Agile, Traditional Waterfall

**Encryption:** RC4

**Equipment:** Oscilloscope, Logic Analyzer, Communication Analyzer, Vector Signal Generator, RF Channel Emulators. ***HP:*** ProLiant DL380 Gen9 Server, 20-20 Router, ProCurve 2510 Switch, ***NETGEAR:*** ProSafe VPN Firewall,

**Radios/Repeaters:**  ***Motorola*:** XPR 8400 and SLR 5000 Repeaters, Astro XTS 5000, XPR 5000 & 7000 Radios, ***Harris*:** *AN/PRC:* 117G, 152, Unity XG-100, M7300 dual band mobile, ***Thales:*** AN/PRC148 (MBITR)

**Clearances: SECRET CLEARANCE**

**PROFESSIONAL EXPERIENCE**

**MOTOROLA SOLUTIONS**

**Senior Software Engineer** 2013 – 2015

* Coded initial call flow for Control Channel Manager and Trunked Controller for Capacity Max Project showing proof of concept of the software architecture, including subscriber registration, RC4 encryption, site and multisite channel allocation, and group and private call flow.
* Designed and Coded Logger framework that logs information across several different platforms, Embedded Linux, and Nucleus using Arm9, providing a logging framework for debugging software and a multithreaded framework for presence interface software.
* Built Capacity Max Multisite System, and led software debugging efforts for Trunked Controller Team and advised and assisted System Integration Test and Integration Test Labs providing software reliability and faster debugging time on a real system instead of using scripts.

**HONEYWELL** 2012 – 2013

**Software Engineer**

* Updated the W3-CO CO Detector converting from the TIMSP1232 MCU to the TIMSP2553 MCU providing a CO detector with a newer processor and twice the memory.
* Designed and Coded a bidirectional protocol for the W3-CO CO detector providing a carbon monoxide detector with wireless capability.

**HARRIS RF COMMUNICATIONS** 2010 – 2012

**Software Engineer**

* Developed software in the M7300 mobile that messages from the Message Data Terminal to radio that translates the data packets and sends them to the User Interface.
* Designed and coded the implementation of mission plan transference on the Unity radio, via Bluetooth, from one radio to another, providing Bluetooth capability for transferring mission plans via radio to radio.
* Designed, and coded user interface code, and ASCII interface for AN/PRC-152 radio, for survival rescue program, providing a user interface for combat survivors.
* Coded auto-testing software using C#, for RF Power Output, ASCII, and SwitchTime testing (switching from one waveform to another) for the SRW (Soldier Ready Waveform) program, providing a testing mechanism for testing certain scenarios for the AN/PRC152 and 117G radios.
* Coded multicast routing software for the HAIPE Falcon 3 program, enabling packets that have destination and SPI (Security Parameter Index) to be accepted along with regular unicast packets allowing AN/PRC 152 and 117G radios to receive multicast packets.

**U. S. ARMY** 2008 – 2009

***First Lieutenant / Team Executive Officer***

**Deployed to Afghanistan** in support of Operation Enduring Freedom (OEF). Advised, trained, mentored, and operated in partnership with the Konduz Province Afghan National Police (ANP) Executive Officer and assisted the Police Mentoring Team (PMT) Commander in managing Focused District Development Programs.

**MOTOROLA MOBILITY** 2005 – 2008

***Software Engineering (contractor)***

Designed, coded, and tested software

* Coded SCOT (**SC**CP **O**ver **T**CP) protocol stack over embedded Linux for UMTS 3G HSAP base station—developed receiving messages between RANAP protocol and sending them to the Motorola Soft Switching Unit through Embedded LINUX via UDP, thus streamlining procedures to achieve results in a timely fashion.
* Coded low level test functions for cell-proc state machine over embedded Linux for UMTS 3G HSAP base station to improve speed, reliability, efficiency, and problem resolution of the cell-proc state machine.

***Systems Engineering (contractor)***

* Coordinated activities of Field Engineer and Lead Engineer to add Data Only carriers and Frame expansions ensuring that upgrades are done correctly and testing of cell reception was adequate.
* Upgraded Alltel Base Station Transmitters with EVDO carrier adds and Frame expansions on cell phone towers adding data and voice capability in cell networks.
* Created, modified, and used UNIX server scripts to take down and bring up cell towers via remote server allowing coordination with the field engineer to allow upgrades of Alltel Base Station Transmitters.

***Test Engineering (contractor)***

* Developed troubleshooting test command software for Nevis project (third generation software radio) and updated requirements for test command (TCMD) software, allowing 3rd generation cell phones reliability through testing.
* Performed Sanity testing for 3G phones; reported results to 3G software test team, ensuring that 3rd generation cell-phones are within high Motorola standards.

**US ARMY RESERVES**

***Chemical Sergeant*** 2002 – 2005

**Graduated from Combat Basic Training / Deployed to Kuwait** in support of Operation Iraqi Freedom (OIF).

**MOTOROLA SOLUTIONS** 1997 – 2002

***DSP / Embedded Software Engineer***

Designed, coded, and tested DSP and embedded firmware for the Astro product subscribers and Telario project.

* Coded and Integrated Type 1 Government Encryption software Sierra into Astro Portable Radios, allowing the integration of Harris Government encryption chips to Astro 3000 & 5000 radios.
* Coded RC4 encryption algorithm for the Advanced Digital Privacy project that delivered basic privacy to subscribers from hackers and scanners of the Astro frequencies.
* Coded DAI (Digital Audio Indicator) software that initiated background noise for out-of-range status and a buzz for interference based upon the RSSI. Simulated white noise algorithms in Matlab with implementation in the Astro 3000 radio using 56K assembly, utilizing the IMBE vocoder. Led testing and mentoring of 3 engineers and presented the DAI software feature to the Secure Design Center.
* Performed and wrote RF testing in C code for LSM (Linear Simulcast Modulation), establishing performance BER (Bit Error Rate) and MER (Message Error Rate) curves validating the LSM modulation scheme’s performance to standard and satisfying project requirements.
* Coded Audio driver software that generated and detected DTMF frequencies, engaged/disengaged the G7.26 transcoder, established phone connections, and monitored connection peripherals within the Camellia ASIC.

**EDUCATION**

Howard University,Washington, DC Graduated 1997

***B. S. in Electrical Engineering***

**MILITARY SERVICE**

UNITED STATES ARMY / NATIONAL GUARD, MOS 11A (Infantry) 2002 – present

* Deployed to Afghanistan for Operation Enduring Freedom (OEF). (**5/2008-11/2009**)
* Graduate of the Infantry Officer Basic Course and Airborne school (IOBC) (**8/2007-3/2008**)
* Graduate of Officer Candidate School (OCS) at Fort McClellan Alabama (**2006**)
* Deployed to Kuwait for Operation Iraqi Freedom (OIF) (**7/2003-2/2005**)
* Graduate of Army basic combat training at Fort Leonard Wood MO. (**11/2002 – 3/2003**)

MILITARY AWARDS

ARMY ACHIEVEMENT MEDAL // NATIONAL DEFENSE SERVICE MEDAL // GLOBAL WAR ON TERRORISM EXPIDITIONARY MEDAL // GLOBAL WAR ON TERRORISM SERVICE MEDAL // ARMY SERVICE RIBBON // OVERSEAS SERVICE RIBBON // ARMED FORCES RESERVE MEDAL W/M DEVICE // AIRBORNE BADGE // COMBAT INFANTRY BADGE