

# ANATOLY YAKOVENKO

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## SUMMARY

Software developer with over 10 years of experience in embedded operating systems, developing [patents](#), leading projects and contributing to large groups including [Linux Kernel](#), with a focus on performance and optimization for Qualcomm ARM and DSP processors.

## SKILLS

### Hardware and Systems

- Embedded Operating Systems, Linux Kernel, Android, Qualcomm MSMs, System MMUs, ARM, Hexagon DSP

### Languages and Tools

- C, C++, Haskell, Lua, Make, Python, Ruby, Git, Perforce, GDB, Trace32

## WORK EXPERIENCE

### Qualcomm, San Diego CA

Senior Staff Engineer, 2012 to Present

Staff Engineer, 2008 - 2012

Senior Engineer, 2006 - 2009

Engineer, 2003 - 2006

- Achieved 10x performance improvement in subsystem communication via FastRPC, a bridge between the DSP co-processor and ARM processor for high performance applications. Ported to Windows, Qnx, Android [Linux Kernel](#). Patents: [20140136817](#), [20140096148](#)

- IDL (Interface Description Language) compiler for [Hexagon SDK](#)
- Dynamic linker for loading dynamic processes on Qualcomms embedded DSP OS
- Dynamic module framework for loading shared objects on DSP from the application processor
- Capability based application framework for BREW (Qualcomm's Mobile Operating System)
- Component Object Model IPC (Inter-Process Communication) implementation for BREW
- IDL compiler with C/C++/Lua backends for BREW IPC
- Elf manipulator with a DSL (Domain Specific Language) in Lua
- System call trace tool for BREW IPC with a Lua DSL.
- Build system plugins for unit testing and verifying code coverage
- Declarative full featured object library for C with C++ compatible v-tables, in less then 500 bytes of RO arm object code
- Prototype and test generation tool for rapid development of BREW components
- Network components using SIP/HTTP/RTP and proprietary standards for QChat push to talk service
- High performance logging tools to handle tens of thousands of transactions per second from many networked components

#### **Alescere LLC, Lisle IL**

#### **Co-Founder, 2001 to 2003**

- Founding member of [Alescere](#), a VOIP startup
- SIP and [RTP](#) protocol stacks, and server components for a VoIP system for small businesses

## **University of Illinois at Urbana-Champaign**

### **Research Assistant, 2003**

- Web server that supports QoS for HTTP requests
- Probabilistic scheduler for the Linux kernel
- Roaming protocol for 802.11a/b networks for NetBSD

### **Personal Research**

- Neural Networks, Genetic Algorithms, Markov Models, and Bayes Inference Algorithms

## **EDUCATION**

### **Bachelor of Science in Computer Science**

### **University of Illinois at Urbana-Champaign, 2003**