

Education B.S. Computer Science, May 2012 North Carolina State University
B.S. Applied Mathematics, May 2012 Raleigh, NC

Professional Experience **Bronto Software/NetSuite/Oracle** August 2012–Present
Senior Software Engineer, Architecture Team

Developed and supported core technologies, helped cultivate standards and best practices for the department and participated in design processes with other software development teams.

- Built *Spew*, a scalable, distributed message broker backed by Redis and ZooKeeper.
- Built *bronto-redis*, a Redis support library including an async Redis client built on Java NIO and an advanced reliable work queueing implementation.
- Built *Chunk*, a Java framework for defining and serializing immutable records.
- Built *TattleTail*, a high-throughput Spew → HDFS audit log.
- Drafted outbound open-source policy and participated in launching outbound open-source pilot program at NetSuite.
- Developed tooling to automate building full-stack development environments.

Logos Technologies, Inc. June 2011–December 2011
Intern

- Debugged and repaired a custom embedded system for high-resolution image processing.
- Designed and implemented vision processing routines for TI C66xx DSPs.
- Ported Kalman Filtering code from x86 with Intel IPP to C66xx DSP.

RootBSD/Tranquil Hosting May 2007–July 2009
Developer/System Administrator

- Launched RootBSD, a FreeBSD hosting provider offering virtual private servers.
- Deployed and administered a Xen cluster to host FreeBSD virtual machines.
- Designed and implemented a distributed application to manage VMs and Xen hosts.
- Wrote FreeBSD kernel patches and performed kernel debugging.
- Provided customer support via phone and email.

Technology Through professional and independent work I have developed experience with the following

- Languages - Java, Python, C, shell script (bash), SQL, x86 assembly, PHP
- Development tools - Git, Maven, SVN, Make, Mercurial, Apache Ant, \LaTeX
- Operating Systems - Linux, FreeBSD, OpenBSD, Solaris/OpenSolaris, Windows

Experience Through various projects I have developed experience with the following

- Designing and implementing highly concurrent network applications.
- Distributed software/algorithm development including development with Hadoop.
- Network protocol design and implementation.

Other Activities **Underwater Robotics Club, NC State University** January 2009–July 2012
President 2010-2011, Member 2009-2011

- Designed an autonomous underwater robot *Seawolf* for the RoboSub competition.
- Lead diverse group of 12-15 students as club president.
- Designed and built *Seawolf Video Router (SVR)*, a high-performance, low-latency video streaming server. SVR became part of the vision processing software stack in 2011.
- Designed and built hardware and software systems to allow *Seawolf* to track an acoustic pinger underwater.