

## PROFILE

Experienced software engineer seeking position in a Test Driven Development environment. Dedicated, hard working with strong programming background on Mac OS X and other UNIX based operating systems. Emphasis on Systems Programming for Backend and Middleware. Highly motivated and aggressive problem solver with emphasis on Code Coverage and Lean Software. Excellent communicator and team player.

## EXPERIENCE

**STAFF SOFTWARE ENGINEER***Nominum, Inc.**2010-Current*

- Re-implemented N2 Proxy policy design using a vastly simplified ordering structure for priorities. Heavily focused on fast multi-threaded access times utilizing lock-free structures as well as quiescent points for safe memory management. All new code had 100% code coverage.
- Created a caching DNS server for the N2 Proxy to reduce external lookup times as well as cycling through multiple responses while respecting their relative TTL. All new code had 100% code coverage.
- Refactored Statistical Monitor data stream code to enable both SSL and AES encrypted communication. This allowed a much easier and secure configuration for in-client network communication.
- Re-wrote List and Domain name auto-completion REST service in Python using a Redis backend with 15% of original code size with 95% code coverage. Later ported to Java and PHP to showcase the adaptability of lean software with changing requirements.
- Re-wrote User IP Tracker in C++ and Redis at 20% of original code size as well as 95% code coverage. Directly ported to Java for final N1 release utilizing the Play! Framework with REST interface.
- Prototyped the N2 Policy and Provisioning engine using Java and both Cassandra as well as PostgreSQL (with replication) on top of Finagle. Responsible for determining initial REST call structure, data input in JSON or binary Google Protocol Buffers as well as policy, data provisioning, and database pruning.
- Lead developer for Mac OS X, and maintainer of Windows guest agent. Responsible for “Phone Home” REST calls with information gathering and reverse-proxy router configuration. Extended existing reverse-proxy code to work on Windows.
- Responsible for all Unit and Acceptance testing for all new features utilizing Python and/or Java.
- Review all incoming applicant coding exercises, as well as all onsite practicums utilizing Java and C++. Interviewed both Development and QA engineers as well as Development Managers.
- Created JavaScript web analytics program using PhantomJS to accurately develop an HTTP performance model for the N2 Proxy utilizing an Ixia network appliance to feed content with appropriate types and sizes with a distribution model particular to that customer’s traffic.

**QUALITY ASSURANCE ENGINEER***VMware, Inc.**2007-2010*

- Developed standard in-guest validation suite for Linux, testing both Hypervisor (Binary Translation: C/ASM, MMU: C, Backdoor: ASM), and Virtual Devices (Storage: C/Python, Networking: C/Python, CDROM: Python, Floppy: Python, Timers: C)
- Developed pseudo-random opcode execution engine for VMware’s Randomized Testing strategy (C/ASM).
- On loan to white-box team for VProbes in ESX 4.5. Developed automation package (Embedded Python optimized for VMware ESXi, as well as Fusion and Workstation) capable of handling hundreds of simultaneous connections for test execution, reporting, and data gathering across all product lines. Tested ESX product release involving VMkernel domain, various test infrastructures, and the emmett compiler.
- Paravirtualization lead across product lines (Including ESX 3.5). Set new standard for black-box teams with regards to Test Plans, Coverage Analysis, Root Cause Analysis, and Performance Regression. Organized execution across three product teams and one direct report. Gave feature presentation to Customer Support Organization.

- Lead for core technology of Fault Tolerance in ESX 4. Re-wrote test plan and created new bug-finding workloads for entire matrix. Lead team of three to restore release deadline. Automation wrapper (Python) reduced team to one, with full resource utilization.

#### **QUALITY ASSURANCE ENGINEER**

*Fabric 7, Inc.*

2006-2007

- Heavily involved with creation of benchmarking and data analysis tools for use in Performance groups (C/Python). Development lead for rewrite of main test infrastructure. Distributed as VMware Virtual Machine for portability among various groups utilizing an easy-to-use web interface for test execution and reporting.
- Certified server products for RedHat Enterprise Linux, SUSE Linux Enterprise Server, and Solaris.
- Traveled to customer sites for support, installation, configuration, and application specific performance tuning for proof-of-concepts.

#### EDUCATION

#### OREGON STATE UNIVERSITY

*Corvallis, OR — Bachelor of Science: Computer Science, 2005*

#### SKILLS

#### **Languages**

Python (unittest2, Fudge)  
C++11 (Gtest, Gmock)  
Objective-C (OCUnit, OCMock)  
Java (JUnit4, Mockito)

#### **IDE/Editors**

Sublime Text 2 (Python, C++11)  
IntelliJ 12 (Java, Python)  
Xcode 4 (Objective-C)  
Eclipse Juno (C++11, Python)

#### **Databases**

PostgreSQL  
MySQL  
Redis  
Cassandra