

DANIEL P. NOÉ

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EXPERIENCE

- **Lead Software Engineer** → **Director of Software** – Speedy Packets, Cambridge, MA
August 2014 - November 2016
 - ◇ Ground floor of an early-stage startup as technical lead of a five person engineering team
 - ◇ Developed reliable transport protocol software (similar to TCP with 2-10x performance increase) using network coding and proprietary congestion control algorithms for Linux, OS X, Android, including OpenWRT (MIPS processor) and ARM processors
 - ◇ Responsible for key architectural decisions including choice of C++11 language and waf build system
 - ◇ Developed effective visual demo of our software and “road demo” kits enabling raising of substantial investment money
 - ◇ Interfaced between development and QA
 - ◇ Setup and managed JIRA issue tracking, assigned tickets and priorities, managed
 - ◇ Setup and managed Gerrit Code Review system, performed code reviews. Developed unit test suite integrated with Jenkins build server for pre-merge verification.
 - ◇ Maintained all company network services
- **Senior** → **Principal Software Engineer** – VeloBit → HGST, Lincoln, MA
June 2012 - August 2014
 - ◇ Kernel software engineering in C on Windows, Linux, and VMWare ESXi platforms for block level cache product
 - ◇ Designed and developed configuration and monitoring tools on the Windows platform using C# including communication with kernel driver
 - ◇ Led a design and development effort to reduce metadata in RAM requirements by 88%
 - ◇ Designed and implemented a mechanism to serialize cache metadata on a clean shutdown for 7x faster recovery of nonvolatile warm cache
 - ◇ Invented, designed, and implemented a new minimal overhead method of flushing cache data sequentially for 5-10x flushing performance improvement
 - ◇ Lead designer and implementer for clustered cache product
 - ◇ Version Control Guru, key part of company effort to switch to Git, mentor to new hires
- **Software Engineer** – Netezza → IBM, Marlborough, MA
November 2010-June 2012
 - ◇ Developed software for the blade and host levels of the massively parallel Netezza Database Appliance
 - ◇ Designed and implemented an improvement to an existing index-like mechanism for reducing disk IO on tightly restricted queries
 - ◇ Designed and implemented novel scored cache replacement algorithm for intermediate query results
 - ◇ Led a radical redesign of the existing index-like zone statistics mechanism
 - ◇ Assisted in the investigation of performance regressions related to a hardware and system architecture change
- **Software Engineer** – Lime Brokerage, Waltham, MA
June 2008-October 2010

- ◇ Wrote market data forwarding application components in C, C++, and Java
- ◇ Wrote processing code for reliable multicast (PITCH) and TCP market data feeds
- ◇ Designed an InfiniBand interface for market data delivery
- ◇ Designed a component to filter consolidated feeds by market participant
- ◇ Improved and reduced overhead of performance instrumentation
- **Software Engineer** – Lamprey Networks, Durham, NH
June 2006 – June 2008
 - ◇ Designed and implemented network device test algorithms in C#, using Visual Studio.NET, including test framework development
 - ◇ Developed an internal test suite for company software core libraries
 - ◇ Assisted in Linux porting and QA for an iWARP and InfiniBand test tool
 - ◇ Represented company at DLNA Plugfest (Portland, OR) and Open Fabrics Alliance Interop Event (UNH-IOL)

EDUCATION

- **Bachelor of Science: Computer Science** – University of New Hampshire, Durham, NH
May 2008
 - ◇ Advanced coursework: Assembly Language, Operating Systems, Storage and Storage Area Networks
 - ◇ Independent study analysis of the Linux kernel sockets interface

SKILLS

- **Computer Languages**
 - ◇ Proficient in C, C++11, Boost, Python
 - ◇ Familiar with Java, JavaScript, SQL, C#, x86-64 Assembly Language, Standard ML
 - ◇ Excellent understanding of language principles and ability to learn new languages quickly
- **Platforms**
 - ◇ Proficient with kernel and user space programming in Windows and Linux environments
 - ◇ Proficient with cloud services Amazon EC2, S3, EBS
 - ◇ Familiar with Android, iOS, Python web development, VMWare ESXi vmkernel
- **Tools and Systems**
 - ◇ Proficient with git, Gerrit, JIRA, Jenkins, waf build system, Mercurial, Accurev, L^AT_EX
 - ◇ Familiar with Subversion, iSCSI, iWARP, InfiniBand, FIX
- **Miscellaneous**
 - ◇ Deep understanding of the interaction between system architecture, CPU, kernel, network and application
 - ◇ Strong writing and clear communication skills
 - ◇ Good troubleshooting and problem solving skills
 - ◇ Technology generalist, leader and teacher, big thinker
 - ◇ Experienced and professionally interested in: database design principals, data structure designs, concurrency friendly designs, effective large parallel systems, reliable multicast techniques, low latency and high performance design, solid state disk software

ACTIVITIES AND INTERESTS

- **Academic and Professional Interests**

- ◇ Storage, transactional storage, networked Storage
- ◇ Communications and Networking, IPv6
- ◇ Operating systems, concurrent and scalable architecture
- ◇ Open Source Software
- ◇ Large parallel systems, big data

- **MIT Educational Studies Program SPLASH**

- ◇ Taught two hour weekend courses to high school students for the SPLASH program from 2006-2015
- ◇ Concurrency and parallel programming: Theory of concurrency, Amdahl's law, CPU atomic instructions and creation of language locking primitives
- ◇ Operating system kernels: An overview of what an operation system kernel does including context switching, interrupts, scheduling, virtual memory management and paging, and file systems