

## EMPLOYMENT

---

**SDM Group Researcher, Intern**      **Lawrence Berkeley National Lab (LBNL)**      **Aug 2015 – Apr 2016**

- Developed middleware to utilize extended memory hierarchy for applications that utilize HDF5
- Benchmarked & Optimized HPC burst buffer storage system (presented at Supercomputing 2017)

**TRUST Researcher, Intern**      **University of California, Berkeley**      **Jun 2015 – Aug 2015**

- Researched burst buffers as a method for improving the computational efficiency of supercomputer
- Developed a middleware application to test burst buffer effectiveness
- Wrote a technical paper on the effectiveness of the middleware application
- Presented my work at several UC Berkeley and LBNL presentation venues

**IT Manager**      **Cobalt Construction Company**      **Jun 2012 - May 2015**

- Managed Linux, Windows, & Hyper-V Servers (2 redundant file servers, 2-5 app servers, 2 Hyper-V servers)
- Managed Network Configurations (4 – 8 Firewalls, Routing Equipment)
- Programmed Custom Software for Inventory and Form Generation (Java)
- Orchestrated Infrastructure Upgrades, Including Bare Metal to Virtual, ZFS SAN (Designed & Implemented)
- Directed department personnel & finances (3 personnel, 400-600 thousand dollars, 80+ user machines)

**Programming Consultant**      **Nexgenic**      **Oct 2014 – Jan 2015**

- Configured & Managed Linux, Windows, & Hyper-V Servers
- Developed Web Front End Applications for Upload Workflow (PHP, Bootstrap, AngularJS)

## EDUCATION

---

**Santa Cruz, CA**      **University of California, Santa Cruz**      **Fall 2016**

- Ph.D. Student in Computer Science, Expect Graduation Fall 2022.
- Graduate Student Researcher in the Storage Systems Research Center (SSRC) Lab Group

**Thousand Oaks, CA**      **California Lutheran University**      **Fall 2012 – August 2016**

- Bachelors of Science in Computer Science, August 2016. In-major GPA: 3.73. GPA: 3.5.

## TECHNICAL EXPERIENCE

---

### Selected Projects

- **Analysis of IO Traces** (R, C, Python; 2017-). Wrote ad-hoc IO trace analysis code for the CERN EOS system. Creating a generalized trace analysis tool to efficiently analyze years of trace data from several sources.
- **Flexible Naming of a Flat Namespace (Nomenclature)** (C, 2016-). Designed a system to provide flexible organization of a flat namespace through the use of programmatically defined name resolution. Implemented a version with BerkeleyDB with plans to port to our object based OS, Twizzler (below).
- **Non-Volatile Memory (NVM) Kernel (Twizzler)** (C, 2016-). Assisted with the design of a NVM kernel to take advantage of upcoming byte addressable NVM. Assisting with future development and planning. Presented at Non-Volatile Memories Workshop (NVMW) 2017.
- **Burst Buffer Parallel IO Optimization** (C, 2015-2016). Modification of the Vector Particle in Cell (VPIC) IO kernel to test parallel IO optimization techniques utilizing burst buffers as part of the HPC memory hierarchy. Presented at Supercomputing 2017.

### ADDITIONAL EXPERIENCE AND AWARDS

---

- Program Committees: HPC-IODC 2018; ISC 2018 Project Posters
- Member of California Lutheran University Regionals ACM ICPC Team 2013, 2014
- Eagle Scout

### LANGUAGES AND TECHNOLOGIES

---

- C; C++; Python; R; Java; Perl; Limited Ruby on Rails; PHP; 8051 Assembly; AngularJS; Bootstrap; MPI; HTML; CSS; Limited VB.NET; Javascript
- GDB; Valgrind; OpenRefine; TexMaker; Weka; Make; Subversion (SVN); Parquet; Spark; PySpark; Jupyter; BerkeleyDB; SQL Management Studio (Microsoft & MySQL); Hyper-V Management Utility; PHPMyAdmin; Git; Gitlab, Nexenta; Zetabyte File System (ZFS); DFSR; Eclipse