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Sean Lynch

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Summary

- Seeking software engineering position in iOS/Mac OS X development, video game development, or data analysis.
- Highly motivated and resourceful software engineer/scientist eager to work on great software.
- Adept at working with new software languages, user interface design, and large scale datasets.

Education

University of Notre Dame (ND) — Notre Dame, IN, USA

M.S., Physics (May 2011) and **Ph.D., Physics** (August 2012)

- Advised by Professor Colin Jessop and Professor and Department Chair Mitchell Wayne
- Developed analysis software to search for events that occur at the rate of approximately 1 in 10^9.
- Analysis of multiple datasets totaling ~ 20 TiB in size.
- Took part in the commissioning of a computing site as part of the Open Science Grid, providing 75 TiB of storage and an 860 node condor cluster.

State University of New York at Geneseo — Geneseo, NY, USA

M.A., Physics, *Cum Laude*, May 2006

Experience

IPhone/IPad Application — Phonographic (2012)

- "Phonographic" is an application that visualizes a user's music listening habits by creating infographics based on the play counts in their library.
- Developed a packing algorithm that not only efficiently places variable sized images, but does so in an aesthetically pleasing way.
- Pending review for the Apple App Store.

Mac OS X Application — Got Mail? (2011)

- Released commercially successful application on the Apple Mac OS X app store.
- "Got Mail?" is an application that provides users with a quick overview of the status of their Apple Mail inbox.

Compact Muon Solenoid Trigger System — European Organization for Nuclear Research (CERN), Switzerland (2009 – 2010)

- Developed application and driver software for the detector trigger system used to selectively reduce a rate $\sim 10^2$ MHz to $\sim 10^2$ Hz.
- Served as 24 hour emergency contact in the event that the trigger system experienced problems or failures.
- Developed software that interfaced the hardware electronics to an Oracle SQL database for the purpose of dynamically configuring the trigger system.
- Quoted as "Working right out of the box" at a collaboration meeting.

Data Quality Monitoring — European Organization for Nuclear Research (CERN), Switzerland (2009 – 2010)

- Developed analysis software to monitor data quality and provide immediate feedback of detector status.
- The data quality monitoring software was and is used by dedicated shifters to identify potential problems as the detector takes data in real time.

Data Analysis — European Organization for Nuclear Research (CERN), Switzerland (2008 – 2010)

- Developed analysis software in C++ and Python used to diagnose problems with hardware detector electronics and physics reconstruction software.
- Produced two separate software packages that were crucial in diagnosing mis-configurations of the on-line detector. The packages proved useful enough to become a standard tools.
- Performed an analysis that was used to set read-out thresholds for on-line detector.

Technical Skills

- **Linux, Mac OS X**
- **Xcode, Cocos2d, CVS, SVN, GIT**, Condor, Photoshop, Vim, Cernlib ROOT
- **C/C++, Python, BASH, Objective-C**, HTML, PHP, MySQL, SQLite, TEX/LATEX

Honors/ Awards

ND Department of Physics Full Tuition Scholarship (2006 – 2012), NSF US LHC Graduate Student Fellowship (June 2009 – May 2010), Geneseo Physics Alumni Award (2006)