Seth N. Blumenthal

Curriculum Vitae - December 2014

http://www.SethBlumenthal.com

A. BIOGRAPHICAL INFORMATION

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Educational History

Dual Major BS, Lehigh University, Bethlehem, PA   Dec 2012
      Integrated Computer Science and Bioengineering (IDEAS)
      Bioengineering

Employment History / Professional Experience

Programmer Analyst, Klish Group, Philadelphia PA   Jun 2013 - Present
Responsible for configuring and maintaining content management software in the HP Interwoven family. Built customized plugins, workflows, and dynamic page components based on gathered client business requirements.

QA Engineer/Software Developer, Zaahah, Philadelphia PA   Feb 2013 - Jun 2013
Developed an automated testing protocol for a collaborative social platform from the ground up using Selenium. Had leading role in managing the development and testing for the platform.

Undergraduate Research, Lehigh University, Bethlehem PA   Nov 2010 - Jan 2013
Geometric modeling of protein binding pockets using tools such as ClustalW, Modeller, Gromacs, and various databases to align proteins, model structural mutations, simulate molecular dynamics, and find activation sites.

Junior Technician, System Administration, Lehigh University, Bethlehem, PA   May 2012 - Sept. 2012
Maintained and optimized a small (70+ computers) Linux network for Lehigh student use. Included extensive scripting, web development, backup procedures, and Linux management.

Associate Scientist, BioLeap Inc, Pennington, NJ   May 2011 -2012
Fragment-based drug design analysis using docking, binding affinity, and bond energy minimization.

B. COMPUTING SKILLS

Programming Languages

C	Built a simple language compiler (Tiny), wrote scripts for Arduino microcontroller
C++	Used extensively for projects, experienced in multiprocessing, multithreading, and templates.
Java	Daily use, wrote package for automated web testing, built customized TeamSite plugins.
Tcl/Tk	Wrote scripts and UI to parse/analyze Protein Database (PDB) files

Python	Used extensively for scripting, focused on file and data manipulation
Assembly	Wrote a calculator for the 8085 microprocessor
HTML/XML	Created simple web pages and forms
SQL	Created/managed databases for various projects
Unix Shell	Used extensively, specifically for configuration/automation of Linux systems
XSL	Used for building dynamic presentation templates for TeamSite components

Software and Technologies

Linux/Unix, Emacs, Vim, Git, Windows, Mac OSX, Apache/Tomcat, Eclipse, Microsoft Office, Selenium Suite, Solaris.

C. SIGNIFICANT PROJECTS AND PUBLICATIONS

Academic Projects

Designed a Biomechanical Scoliosis Spine Model for Aesculap   Jan 2011- Jan 2012
Design Engineer**,** Bethlehem, PA
Created an anatomically correct apparatus to model resistance a spine with varying degrees of scoliosis.

Mobile Computer Product Prototyping for Not Theatre-Theatre Company   Sept 2012 - Jan 2013
Consultant, Bethlehem PA
Designed and assembled a Linux microboard platform for use in live theater performances.

Journal Articles

1. Blumenthal, Seth, et al. "Isolating Influential Regions of Electrostatic Focusing in Protein and DNA Structure." *IEEE/ACM Transactions on Computational Biology and Bioinformatics (TCBB)* 10.5 (2013): 1188-1198. < http://dl.acm.org/citation.cfm?id=2564669 >

2. Guo, Ziyi, et al. "A Flexible Volumetric Comparison of Protein Cavities Reveals Patterns in Ligand Binding Specificity." <http://www.lehigh.edu/~sob210/guo-chen-ismb2014.pdf>

3. Kulp III, John, and Seth Blumenthal. "Journal of Computer-Aided Molecular Design." *Fragment-based approach to the SAMPL3 Challenge*. 26.5 (2012): 583-594. Print. <http://link.springer.com/article/10.1007/s10822-012-9546-1>.