Alex Wulff

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Education

South Dakota School of Mines and Technology (SDSM&T):

- Computer Science (BS) / Mathematics minor – May 2015
- GPA: 2.9 (SDSM&T)

Past Coursework:

Basic Programming, Data Structures, Programming Languages, Assembly (ARM 11), Parallel Computing, GUI/OOP, Mobile Computing, Database Management Systems, Analysis of Algorithms, Operating Systems, Computer Organization and Architecture, Theory of Computation.

Current Coursework:

Fall 2014: Computer Graphics & Senior Design (Automated UAV/UGV for Search & Rescue applications).
Spring 2015: Natural Algorithms, Differential Equations, Senior Design (Continued).

Related Work History

Software Developer Intern – CHR Solutions, Rapid City, SD - 08/2014 – Present
Developed modified build solutions leveraging existing TFS architecture and continuous integration. Assisted with updates to legacy and current billing software solutions.

Software Engineer Intern – Amazon, WA – 5/2014 – 8/2014.
Assisted in creation of massively scalable architectures leveraging existing Amazon Web Service components (EC2, S3, CloudFront, etc.) to create a virtualized windows solution available on IOS, Android, Windows and Mac hosts.

Research Assistant – SDSM&T, SD – 11/2012 – Present.

- Assisting with Advanced Materials Processing (AMP) in the research, categorization and elimination of wormhole defects found in friction-stir welding. Developed automated counter agent to resolve defects before they form.
- Assisting the Math/Computer Science department with development of a highly scalable parallel research program for multi-dimensional density estimation using wavelets. Usable in signal analysis, atmospheric sciences and security systems.

Software Developer Intern – Innovative Systems, Rapid City, SD - 05/2013 – 05/2014
Developed GUI and back-end for telepohony / IPTV client's servers and set-top boxes. Also assisted with the development of test facilities to help in mass testing and performance analysis of set top boxes and system infrastructure.

Technical Skills

- Programming Languages: C/C++, Java, C#, LISP, ARM11.
- Scripting: Bash, Python 2/3.
- Mark-Ups & GUIs – Xml, Xaml (WPF 4) & QT.
- IDEs / Tools: Linux, Visual Studio 2010/2012, Eclipse, Netbeans, Android Development Kit, Gcc/G++/Gdb, SCONS, Jenkins.
- Commenting methods: Javadocs, Python net-strings, Astyle and Doxygen plugins.
- Profiling and Algorithm Development: (Gprof, Valgrind, timings), Microsoft Visio, VSG (Avizo) and Matlab compilers.
- Source Control – SVN, GIT, and TFS.
- Parallel Extensions – P-threads, B-threads, OpenMP, MPI, (Cilk/++).
- Operating System familiarity: Linux (Ubuntu, Gentoo, BackTrack, Fedora, Arch), Windows (8, 7, & XP), OsX (10.3 – 10.6). Virtual (Xen, ESxI, Virtual Box, and VMware – workstation, hypervisor).

Achievements / Activities

- Association of Computing Machinery (Spring 2012 to Present).
- Placed 84th at 2012 Regional Inter-Collegiate Programing Competitions.
- Assisted MET / GEO department with teaching courses on XCT and VSG computerized imaging systems.
- Have four research papers either printed or to be published in academic journals.
  Copies available upon request

Relevant Independent Projects

- Development of clothes matching app for Android/ Windows phones with database and GUI (in progress). Will leverage SQL lite databases for both internal and server managed collection of clothing and will coordinate clothing using an approach similar to LINQ.
- Development of personalized “Git-FS” for management of virtual disks. This system uses a change state mapping to update only modified sections of virtual operating systems and will include a convenient front end. Will leverage a C++ server for efficiency and a portable gui and possibly status app for Windows Phone 8 and Android.
- Experimentation with Chess AI-mapping in distributed parallel environment.
- Participation in South Dakota’s Research Experience for Under-graduates (REU), with Micro-CT Scans, 3D extrapolation, and software development and assistance.
- Establishing a method to correctly identify and reproduce fossils that are entirely enclosed by concretions by means of Micro-CT and 3D printing.
- Assistance in graduate-level course leveraging techniques of Micro-CT imaging, image reconstruction and mathematical analysis of various samples.
- Mp3 to sheet music generation.

  Code samples available upon request.