

BEN HOLLINGSWORTH

SOFTWARE ENGINEER

CONTACT

obiwan@jedi.com
402-432-5334
linkedin.com/in/benholl
Eagle, Nebraska, USA

EDUCATION

M.S., 2004
Computer Science
University of Nebraska - Lincoln

B.S., 1994
Computer Science
Electrical Engineering minor
University of Nebraska - Lincoln

SKILLS

C/C++ (30+ years)
Linux/Unix sysadmin (30+ years)
Cross-platform builds (14 years)
Python (10+ years)
Perl (10+ years)
SQL (7 years)
Bash
Agile/Scrum
Git
Tcl/Tk
BIM
IFC
Automated testing
Windows sysadmin
TCP/IP networks
File format conversions
Intuitive UI design
3D geometry
Image processing
GIS

SUMMARY

I am a talented programmer and system administrator with experience in a wide variety of languages and platforms, but specializing in C++ and Linux. I am seeking a position involving system-level, imaging, graphics, or other interesting programming tasks, perhaps including system or network administration duties. I have a proven ability to work well with clients through all stages of a project, from gathering specifications through testing and maintenance.

When coding and designing networks, as with most aspects of my life (like building Jeeps and remodeling homes), I focus on good design with an eye toward future maintainability rather than simply getting a quick fix out the door.

WORK EXPERIENCE

Programmer Analyst

Design Data / SDS2, September 2008 - March 2023

- Collaborated with a team of dozens of programmers to create a large, multi-platform (Windows / Linux) software package for structural steel detailing and 3D modeling, primarily using C++ and Python.
- Worked within an Agile / Scrum framework for the last three years.
- Responsible for BIM interaction, converting internal 3D model data into industry standard file formats such as IFC, STEP, and E57.
- Improved reliability and precision of our low level 3D geometry libraries while dancing around the landmines of finite precision floating point math.
- Designed multi-platform user interfaces using Tcl/Tk.
- Integrated numerous large, third party libraries into our own multi-platform software package, frequently using CMake.
- Helped build our in-house automated software testing system written in Python and C#.
- Led the DevOps team that managed our in-house git repositories and cross-platform (Linux / Windows) build system using Make, gcc, MinGW, and docker.
- Assisted with Linux system and network administration, automating and streamlining processes whenever possible.
- Mentored junior programmers.
- Frequently got compliments from coworkers about how well documented and easy to understand my code is.

Systems Programmer

BryanLGH Medical Center, January 2005 - August 2008

- Helped lead a team of people responsible for Unix system administration, network security, database administration, storage area networks, disaster recovery planning, and enterprise infrastructure design for a 3000-node, multi-campus network of Linux, AIX, VMS, Windows, and VMware servers; SAN storage; and desktop workstations.
- Automated management and security processes using Bash / Perl scripts and SQL databases.

BEN HOLLINGSWORTH

SOFTWARE ENGINEER

Programmer

GC-Image, July - December 2004

- Worked with other programmers to create a large Java application for the analysis of comprehensive two-dimensional gas chromatography (GCxGC) data.
- Developed an innovative new method for interactive 3D viewing and change detection between multiple datasets. The bulk of my work was the implementation of concepts resulting from my masters thesis research (see EDUCATION below).

Co-founder / Vice President / System Administrator

Internet Nebraska, June 1994 - August 2011

- Created Lincoln's first public Internet Service Provider and helped direct the growth of the company from a 3-man shop to the largest Nebraska-based ISP.
- Responsible for general Unix system and network administration while specializing in management of Usenet news, electronic mail, DNS, modem terminal servers, and hardware maintenance.
- Performed technical support for customers via phone and email.

Senior Programmer / System Administrator

Nebraska@ Interactive, October 1996 - May 2003

- Worked with state government personnel to develop C, Perl, and HTML applications to modify numerous large databases (Informix, MySQL, Oracle), interface with mainframe applications via SNA, and provide public access to that data via web browser front ends.
- Wrote low-level daemons, utilities and libraries used by other programmers.
- Performed system administration and hardware maintenance duties for a network of servers and workstations running Solaris and Linux as well as desktop PCs running Windows.
- Performed performance analysis and capacity planning for office computer and networking resources.
- Developed security policies and disaster recovery procedures for office computer systems.

Senior Programmer / Analyst

Hickman-Kenyon Systems, May - October 1996

- Wrote portions of a large medical patient tracking application in Objective C and the OpenStep graphical environment for NeXT and Windows NT machines.
- Performed Unix system administration tasks both in-house and while contracted to customer sites.

Software Engineer

MicroImages, October 1989 - January 1994

- Created and maintained several large, X/Motif-based C programs which were integrated with others into a single geographic mapping / image processing software package.
- Wrote conversions from numerous image file formats into in-house file formats.
- Wrote low-level drivers for XY digitizers.
- Programming environment was a network of PCs running DOS and various Unix workstations.

BEN HOLLINGSWORTH

SOFTWARE ENGINEER

EDUCATION

M.S., 2004

Computer Science

University of Nebraska - Lincoln

- Thesis research developed new comparative visualization techniques for two-dimensional gas chromatography data.
- Thesis implementation was integrated into a large Java application being developed with other programmers at GC-Image, LLC.
- Thesis is available online at <http://www.jedi.com/obiwan/thesis.pdf>. This work was also published in the *Journal of Chromatography A* and in the proceedings of the International Symposium on Capillary Chromatography and Electrophoresis.
- As a graduate research assistant, developed new algorithms for use by USGS technicians to automatically identify clouds in multispectral Landsat satellite images. This research was presented at the SPIE Image Spectrometry conference, available at <https://www.jedi.com/obiwan/spie.pdf>.
- Assisted in research and development of graph matching algorithms implemented on massively parallel architectures for the 3rd DIMACS Challenge.

B.S., 1994

Computer Science

Minor in Electrical Engineering

University of Nebraska - Lincoln

- ACM involvement: UNL student chapter member for five years, during which I held the offices of chairman, vice-chair, and treasurer; international member 1990-99; SIGGRAPH member 1993-99.

References are available upon request.