Daniel Lakeland

Endpoint Scientific Computing
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Technical Skills

- Common Lisp, Prolog, Python, C/C++, UNIX shell utilities, LaTeX.
- Linux, Unix, Windows.
- Software Development techniques, Statistics, Mathematics, Data Collection, System administration and reliability.

Work Experience

2000–Present **Sole Proprietor** Endpoint Scientific Computing Lafayette,CA

- Developed software tools for scientific data management of genetics research data. A web based system that provides an intelligent, process-oriented interface to genetic colony management.
- Gave digital imaging seminar to UC San Francisco research laboratories. Explained fundamentals of producing quality digital images for scientific publication.
- Administered a network of Linux based desktop, laptop, and server systems. Includes networking, security, reliability, and disaster recovery management.
- Independently ran all aspects of business including accounting, software development, system administration, and marketing.

1998–2000 **Special Projects Researcher** Barra Inc Berkeley, CA

- Researched the effect of news stories on short term risk in the U.S. equity securities markets.
- Wrote Common Lisp program to parse, interpret, and collect statistics on financial ticker data. Program was used to test the accuracy, reliability, and quality of an existing C program. Ran 10 to 20 times faster than original C program, and detected multiple errors in the original production system.
- Designed and implemented Multi-processing scheduling and load distribution system for daily database updates.
- Designed source code configuration management system, and provided development process expertise. New process doubled project productivity.

- Created and implemented Data filtering techniques for financial ticker data.
- Optimized algorithms and code to improve the speed of daily database updates, and mathematical model estimation.
- During company-wide software design seminars, provided expertise in software tools, languages, testing, benchmarking, and algorithms.

1998–2000 **Computing System Administrator** Independent Consultant, Berkeley, CA

- Provided Linux and Windows NT maintenance expertise to a financial company in Walnut Creek, and Dr. Francesca Mariani at UC Berkeley.
- Provided networking support to a LAN with Windows NT and 95 clients.
- Configured Linux file server to provide low cost, reliable, backed-up file sharing for a network of Macintosh workstations.
- Provided network security analysis to prevent break-ins, and detected security compromises in multiple other machines.

1998 **Software Developer** Mondex USA, San Francisco, CA

- Designed and built cryptographically secure automated data collection system for financial risk management data. Implemented system using Python on the Windows NT platform.
- Designed Smart-Card electronic cash, customer loyalty, and security systems on the Windows NT platform.
- Created and configured GNU/Linux web server for developer support web site.

1996 **Imaging Technology Developer** Lawrence Berkeley National Laboratory, Berkeley, CA

- Managed design, implementation, and documentation of a parallel processing, software-only MPEG video compression encoding system in C++. Vastly improved performance and maintainability of code base.

1995-1997 **Research Experience** Iowa State University, Ames, IA

- Thesis: ”Artificial Life for Approximate Deconvolution.”
- Performed original research in digital signal processing for audio spectrum equalization, and artificial life techniques for discrete global optimization.
- Created a system to maximize the quality of audio reproduction by minimizing the variations in the frequency response function.

1993–Present **Other Research Experience**

- Programmed a generic extensible network protocol server with modular plug-in protocol handlers for BeOS.
- Built analog and digital circuitry for audio applications, and digital signal processing techniques.
- Built custom electronic devices for sensors, amplifiers, control systems, and data collection.

1993-1995 **Teaching Experience** Iowa State University
Ames, IA

- Gave C++ Standard Template Library seminar.
- Teaching assistant to introductory Computer Science course. Taught students basic concepts of programming, abstraction, and computer problem solving both in lectures, and individual tutoring.

1993–1994 **Software Developer** Master Software
Walnut Creek, CA

- Developed Mainframe client server systems for Macintosh clients and Tandem servers.

Education

- BS Mathematics, minor in Computer Science. Iowa State University. 1997
- Pi Mu Epsilon mathematical honors society member.
- Fred and Fay Robertson Mathematics Scholar 1996-1997