Elizabeth(Becky) F. Olson

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Fort Collins, Colorado 80521

**Summary**

**Twenty eight years experience in the field of computer science as a programmer/
systems analyst, system administrator and database administrator.**
Languages: Java, C++, C, COBOL, Fortran, Perl, Javascript, HTML,CSS,JSP,XML
OS:  Linux/Solaris/HP UX, Windows, VMS
Areas of expertise:  databases, web programming, network programming

**Experience**
**Senior Research Associate**
**UVB project, Natural Resource Ecological Laboratory, Colorado State University**
**May 1995 – present**
My role in the UVB project is to be the database administrator/web master for our data
stream and to provide programming support for our scientific community.  I was
originally recruited to help with the processing of the 3 minute averages being polled at
our 26 stations around the US. I designed/created and automated the process to download
our data(perl, c, java). I designed and programmed the database to store this data(Oracle
and Mysql) and designed and programmed(java servlets and jsp, tags, css) the web
page(uvb.nrel.colostate.edu)  to allow our scientific users to access this data.  I also
helped with the quality control of the data stream by providing automated checks to our
data. I have also provided programming support to our scientific community by aiding in
the programming of our scientific products and by providing unique data request to our
users. Originally on Sun/Solaris but now Dell/Linux operating systems.

**Research Associate,**
**Natural Resource Ecological Laboratory, Colorado State University**
**Oct 1990 – May 1995**
Provided programming support to the research scientists and system administration
support. Projects included creating a WWW home page for NREL using the HTML
language and the Perl shell script. Other projects included programming in C++(SunOS),
and designing GUI's using Motif and UIMX. I  designed a C++ toolkit which could be
used by programmers when developing simulation models. The toolkit included such
C++ classes as Random Number Generators, Link Lists, and a networking class to
provide for the exchange of variables between models on the same machine or different
machines. The GUI's have allowed for researchers to search for various references from a
database by name, date as well as create their own reference database by searching
through periodicals.

**Heterconn, Fort Collins, Colorado 80521**
**Oct 1989 - June 1991**
Served as a software engineer, redesigning Heterconn's software to take advantage of

existing technology, and programming(C language, Unix) the networking portion of the software using both Berkeley sockets and System 5  TLI.  I also created a system administration package for the software, and a demonstration model of the package using the Motif X window system.

**Loveland Controls Company, Loveland, Colorado   80539**
**November 1987 - October 1989**
Served as a software engineer, programming(C language, DOS) enhancements, adding new features, and fixing bugs in the existing product. Aided in customer support. Involved in the planning stages for a new generation of the product involving windowing, networking and Unix.

**Unicad, Inc.,  Boulder, Colorado  80301**
**March 1987 - November 1987**
Served as Manager of Operations for a network of Unix workstations, Microvaxes running VMS, and PC's running DOS. Responsible for installing, maintaining operating systems, and trouble-shooting hardware and software problems.  Assisted in the development and implementation of a source control plan for Unicads software. Developed and installed in house tools for programmers.  Aided in the creation of a new software engineering group whose goals were to, provide in house utilities for the programmers, modularize Unicads product, and automate the testing of the product by developing test programs at the module level.

**Institute for Computational Studies (ICS), Fort Collins, Colorado  80522**
**Oct 1984 - Jan 1987**
 Served as systems support for a network of Unix workstations. Wrote utilities, in C and the shell scripts, to facilitate efficient use of the workstations by the ICS staff. Trained the research staff in the use of Unix and the workstations.  Developed interactive graphics (GKS) software in C and FORTRAN for the researchers on both the Sun and IRIS workstations. Ported/converted NASA Ames, FORTRAN graphical package running on an IRIS, to run on a Sun in the C language. Participated in a long haul communications experiment (LHCS) with NASA Ames.  Participated in the design for a campus wide network. Aided Mountain Bell and the Colorado Advanced Technical Institute, in preparing a proposal for a state wide network, linking all the universities.  Developed a summer program for the Colorado Poudre-R1 school district which allows high school students to spend four weeks at ICS working on projects which use the computer equipment at CSU.

**University Computer Center at CSU**
**Oct 1982 - April 1985**
Aided in the maintenance of Vaxes running Unix and VMS operating systems. Served as software librarian for the Cyber 700/800 series with NOS 1.4/2.3 operating systems.  Installed, modified, maintained and documented all software packages on the Cyber 800 series.  Served as a consultant for both the Cyber 700/800 series and Cyber 205 super computer.

**Electronic Data Systems, Golden, Colorado**
**Sept 1981 - Oct 1982**
Developed several interactive systems on an Hewlett Packard 1000 in FORTRAN such as a power supply forecast for a day, month or year with graphic capabilities; a menu-driven system to determine a users access to the programs; and an energy and accounting plan to inform the customers about the power owed or due them. Aided in the design of a database for the storage of power generated and used.

**McDonnell Douglas Automation Corporation, St. Louis, Missouri**
**June 1979 - June 1981**
Developed and maintained several mathematical optimization models for computing aircraft spare parts needed to maintain a set flight program. Worked with the Air Force and Navy, converting mathematical models to run on the IBM and Cyber 700 series at McDonnell Aircraft. Used FORTRAN and COBOL on an IBM 360/270 with an OS/MVS operating system and a Cyber with NOS operating system. Served on the Technical Management Committee created to examine possible beneficial products and methods in the field of computer science for use by McDonnell Douglas Automation. Editor of departmental newsletter.

Education
May 1979  MS in Mathematics, Cum Laude
       St. Louis University
       St. Louis, Missouri

May 1974  BS in Mathematics Education, Cum Laude
       North Carolina State University
       Raleigh, North Carolina

Publications:

Wang, X.L., W. Gao, B. Olson, J.M. Davis, and J.R. Slusser, 2007, Dependence of erythemally weighted UV radiation on geographical parameters in the United States. In Remote Sensing and Modeling of Ecosystems for Sustainability IV, 667903, Published by SPIE, Bellingham, WA, USA

Xinli Wang, Wei Gao, James Slusser, John Davis, Becky Olson, Bill Durham, Roger Tree, George Janson, Scott Janssen, and Rita Deike, Gwen Scott, 2006. USDA UV-B monitoring system: An application of centralized architecture, In: Proceedings of the 2006 International Conference on Parallel & Distributed Processing Techniques and Applications & Conference on Real-Time Computing Systems & Applications, PDPTA 2006, edited by Hamid R. Arabnia, CSREA Press, pp. 279-285, 2006.

Wang, X.L., W. Gao, J. Slusser, J. Davis, G. Scott, B. Olson, N. Krotkov, M. Xu, and X-Z. liang, 2006, Spectral distribution of UV-B irradiance derived by synthetic model compared with simulation results of TUV and ground measurements. In *Remote Sensing*

*and Modeling of Ecosystems for Sustainability III*, 62980L-1—62980L-9, Published by SPIE, Bellingham, WA, USA

Slusser, J.R. D. Bigelow, W. Gao, G.R. Scott, and B. Olson. 2003. Comparison of UV synthetic spectra with broadband and spectral irradiances, Proc. SPIE, 5156, 403-408.

Gao, W., J.R. Slusser, L.C. Harrison, P. Disterhoft, Q. Min, B. Olson, K. Lantz and B. Davis. 2001. Comparisons of UV Synthetic Spectra Retrieved from the USDA UV Multi-filter Rotating Shadow-band Radiometer with Collocated USDA Reference UV Spectroradiometer and NIWA UV Spectroradiometer. Proc. SPIE, Vol. 4482, 408-414.

**Organizations:**
 Mysql Users Group