

Bryon Lawrence
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Objective:

To pursue a unique and challenging career in the fields of hydrology and the atmospheric sciences, combining my education and expertise in information technology and hydrometeorology, while exploring the relationships between humans and water resources of the western United States

Technical Experience:

Operating Systems: Linux, UNIX, HP-UX
Programming Languages: FORTRAN, C, C++, Java, Python, Ruby, Groovy
Scripting Languages/Shells: Awk, Bourne Shell, C Shell, Korn Shell, Tcl/Tk, Perl
Build Tools: Make, GMake, Ant, Gradle
Integrated Development Environments (IDEs): Eclipse, NetBeans
Databases/Query Languages: Informix, Postgres, Oracle, SQL
Web: HTML, CSS, Java Script, Ruby on Rails, Web2Py
Graphics: OpenGL
GIS: OpenLayers, GoogleMaps, Ext-JS
Automated Testing: JUnit, PyUnit, Cucumber, RSpec, Spock (Behavior Driven and Test Driven Design Techniques)
Version Control: Git, Subversion, RCS
Java Technologies: Spring, Hibernate, Beans, Camel ESB, ActiveMQ, GWT, Guava
Development Methodologies: Agile, Rapid Prototyping

Professional Experience:

COOPERATIVE INSTITUTE FOR RESEARCH IN ENVIRONMENTAL SCIENCES (CIRES)
Boulder, CO
July, 2010 – Present

Professional Research Assistant

- Develop hydrometeorological software in support of critical data acquisition and hazard generation operations at National Weather Service Weather Forecast Offices nation-wide (WFOs)
- Cultivate better working relationship(s) between GSD and the National Weather Service community of hydrologists and meteorologists in order to better design and implement information systems to meet their operational requirements
- Engineer software plug-ins for the next generation of the Advanced Weather Interactive Processing System (AWIPS II), an Eclipse Rich Client Platform based tool critical to National Weather Service forecast and hydrologic operations
- Create stable, well-designed software applications which meet customer requirements and expectations by employing agile software development techniques as well as proven software design patterns.
- Develop Service Oriented Architect, a cost-saving framework designed for its maintainability and extensibility
- Design and demonstrate applications which will enable WFOs to retrieve hydrometeorological datasets from remote web feature services and web coverage services

NATIONAL WEATHER SERVICE (NWS) WEATHER FORECAST OFFICE (WFO)
Grand Junction, CO
July, 2008 – July, 2010

Service Hydrologist

- Managed National Weather Service hydrology program for western Colorado and eastern Utah
- Forecasted and produced short and long term weather forecasts for western Colorado and eastern Utah, issuing weather advisories and warnings as warranted
- Increased public outreach of National Weather Service Forecast Office Grand Junction hydrology program in the community, promoting greater awareness and availability of NWS hydrologic products to western slope water interests
- Configured and maintained critical information systems used in issuing hydrologic watches, warnings and advisories
- Acted as the liaison for the NWS Hydrology Program with federal, state and local government agencies, as well as local organizations, providing public education on flood preparedness and western Colorado water issues
- Developed working agreements with the US Geological Services and US Bureau of Reclamation, optimizing the collection and sharing of hydro-meteorological data across agencies

OFFICE OF HYDROLOGIC DEVELOPMENT (OHD), NATIONAL WEATHER SERVICE
Silver Spring, MD
June, 2006 – July, 2008

Physical Scientist

- Directed Hydrologic Software Engineering Branch (HSEB) team projects, developing information systems in support of Weather Service Forecast Hydrologic Forecast System (WHFS) in the Advanced Weather Interactive Processing System (AWIPS)
- Collaborated with representatives from NWS WFO and River Forecast Center (RFC) Hydrology programs nation-wide, collecting software requirements and developing information systems in support of Forecast Office daily operations
- Coordinated and assigned tasks to teams of up to 8 employees, while training them on technical expertise and knowledge of hydro-meteorology
- Provided direction to project teams, by giving feedback both orally and in writing, while resolving issues and concerns as needed

OFFICE OF HYDROLOGIC DEVELOPMENT (OHD), NATIONAL WEATHER SERVICE
Silver Spring, MD
June, 2001 – June, 2006

IT Specialist

- Served on computer software development team, providing support for the WFO Hydrologic Forecast System (WHFS) in AWIPS
- Developed software with improved viewing and quality controlling point and gridded hydro-meteorological data in geospatial and time-series format, empowering forecasters to monitor and issue warnings and advisories on short-fused flash flooding events
- Developed and supported user documentation for the WHFS software, applying technical writing and problem solving skills
- Created user manuals, implementation guides, and test procedures employing technical writing techniques

GENERAL SCIENCES CORPORATION (GSC)

Silver Spring, MD

September, 1997 – June, 2001

Meteorologist / Programmer Analyst

- Developed computer software in support of AWIPS products for Meteorological Development Laboratory (MDL), specifically those products related to national and local verification of public and aviation forecasts
- Developed C, C++, and Fortran utilities and have acquired knowledge and experience in writing Bourne Shell, C Shell, Perl, Tcl/Tk, and Awk scripts
- Acquired expertise with UNIX operating system, creating and indexing SQL and INFORMIX databases.
- Created C-based applications that interact with INFORMIX databases
- Created GRIB II encoders and decoders

Previous Professional Experience:

Earth Satellite Corporation	Staff Meteorologist	1996-1997
Fleet Weather	Staff Meteorologist	1995-1996

Education:

- Masters in Information Technology (MSIT), UMUC, 2006
- BS in Atmospheric Science, SUNY Albany
- Two certificates from UC Berkley in Software as a Service (SAAS), 2012

Professional Publications:

- Enhancing Precipitation Estimation Capabilities at National Weather Service Field Offices Using Multi-sensor Precipitation Data Mosaics, 19th Conference on Interactive Information Processing Systems for Meteorology Oceanography and Hydrology AMS 83rd Annual Meeting, Long Beach, California.
- AWIPS II Extended – Data Delivery Paradigm, AMS 91st Annual Meeting, Seattle, Washington
- National Weather Service Hydrologic Services: Providing Information for Flood Preparedness, Drought Mitigation and Water Resources Management on the Western Slope of Colorado, May 18-21, 2009, National Hydrologic Warning Council (NHWC) Annual Conference, Vail, Colorado

Awards:

- SUNY Albany Atmospheric Science Department Narayan Gokhale Award, 1995
- National Weather Service Isaac Cline Award, Local Level, 10/22/2009
- United States Department of Commerce Certificate of Recognition, March 24, 2010

References:

Available upon request