David McWhorter

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Experience

Commonwealth Computer Research, Charlottesville, VA
Sr. Software Engineer and Technical Lead: August 2011 to Present
Software Engineer: October 2008 to August 2011

Software Development

- Developed operational and research software for the Army and Navy to model enemy learning using geospatial data to predict the time and location of future events.
- Designed and architected the Simple Warning Instant Forecasting Tool (SWIFT), a geospatial predictive analysis tool for small units with limited computing resources.
- Combined SWIFT with a similar application to form one predictive analysis platform capable of running in a multi-node cloud environment or single-node standalone environment.
- Designed, tested, and oversaw development of an Android-based mobile application.
- Contributed to a new open source spatio-temporal index for Accumulo, GeoMesa.
- Developed a JavaScript-based user interface to present predictions to analysts.
- Extracted common methods and algorithms into internal libraries for use across projects.

Technical Leadership

- Oversaw a team of three to twelve engineers using an agile sprint-based approach.
- Trained and developed engineers on my team.
- Delivered formal performance reviews.
- Interviewed full-time and internship applicants.
- Defined requirements with customers.
- Worked with internal projects to minimize overlap and align our vision.

Research

- Compared new predictive analysis techniques with standard libraries and internal algorithms.
- Utilized generalized linear models, random forests, and kernel density estimation.
- Wrote successful proposals for new contracts.

Demonstrations and Infrastructure

- Regularly demonstrated new capabilities at scheduled operational evaluations.
- Set up and maintained infrastructure such as continuous integration servers.

Science Applications International Corporation, Charlottesville, VA
Software Application Engineer
October 2007 to October 2008

- Designed and implemented text search tools.
- Improved a Microsoft .NET client interface for accessing search tools through web services.
- Adapted an existing application to a dual security domain environment, routing communication through a protected server and enabling queries using row level security.
- Designed and prototyped a search product combining functionality from three existing tools into one modular, extensible application.

Nonprofit Organization, Asia
Regional I.T. Director and Web Developer
August 2006 to August 2007

- Served as Regional I.T. Director during the six month absence of the permanent director.
- Led the installation, training, and auditing of security software.
- Developed a website for staff information and a web application for submitting reimbursements.

Image Matters LLC, Leesburg, VA
Java Software Development Intern
May 2004 to January 2005

Skills

Programming Languages: Scala, Java, Groovy, R**,** JavaScript, HTML/CSS, shell scripting, SQL, C#
Java Technologies: Spring, Java EE/EJB, JPA/Hibernate, Akka, JSP, JBoss, Tomcat, Jetty, Android
Web Technologies: XML, REST/SOAP Web Services, ExtJS, OWL/RDF, Apache, JMS/ActiveMQ
Cloud Technologies: Hadoop, YARN & Map/Reduce, Accumulo, Oozie, Storm, Kafka, GeoMesa
Data Storage: PostgreSQL/PostGIS, MySQL, Oracle/Oracle Spatial, NetCDF
Geospatial Technologies: GeoTools/GeoServer, OpenLayers, Quantum GIS, GDAL Utilities
Development Tools: Git, JIRA/Confluence, IntelliJ, Netbeans, Maven, Subversion, Ant, Vim, Linux

Education

University of Virginia
School of Engineering and Applied Science
Charlottesville, VA

B.S. with High Distinction; May 2005
Computer Engineering and Computer Science

- GPA: 3.76 out of 4.00
- Dean's List, Intermediate Honors

Piedmont Virginia Community College
Statistics (2010)

University of Virginia
Linear Statistical Models (unofficial audit; 2011)

École Polytechnique Fédérale de Lausanne
Functional Programming Principles in Scala (2012)
Principles of Reactive Programming (2013/2014)