

Work History

RTI International (Formerly MPR Associates, Inc.) Manager, Systems Analysis and Programming

**2010 - present
Seattle, WA**

- Developed PHP/MySQL/HTML/Javascript websites primarily using CakePHP framework
- Lead teams of programmers and coordinated work with project directors, quality assurance teams and designers from remote location
- Administered LAMP / WAMP servers, both in-house servers and at Amazon Web Services
- Coordinated communications between clients and internal teams
- Developed user interface wireframes for new and proposed features
- Mentored junior employees and helped guide their professional development
- Participated in program area management meetings with program directors to distribute workload and determine staffing needs
- Worked with project directors to draft annual budgets for projects
- Implemented dynamic InDesign document process with data fed from no-sql datastores
- Created web applications packaged as downloadable executable files for offline use without an internet connection
- Participated in agile process as scrum master
- Produced a number of data visualization products which made heavy use of SVG graphics and the D3.js library
- Developed curriculum portal allowing teachers to adapt curriculum and share changes with communities of practice and essentially perform 'track changes' on the web
- Obtained three year Authorization to Operate (ATO) from the Office of Elementary and Secondary Education at the U.S. Department of Education
- Maintained highly-available College Scorecard static site and Ruby on rails API application and API hosted on Cloud Foundry with over 100,000 unique sessions per month

Representative Websites:

- College Scorecard (<https://collegescorecard.ed.gov>)
- Lucas Education Research AP Curriculum Portal (<https://lucasedresearch.org>)
- Migrant Education Interstate Coordination Website (<https://results.ed.gov>)
- Early Grade Reading Barometer (<http://earlygradereadingbarometer.org>)
- ConnectEd Studios (<https://www.connectedstudios.org>)
- The Completion Arch (<http://completionarch.org>)
- National Center for Innovation in Career and Technical Education (<http://ctecenter.ed.gov>)

Jiva Creative Interactive Developer

**2005 - 2010
Alameda, CA**

- Developed PHP/MySQL/HTML/Javascript for 50+ clients, from small to large businesses
- Deployed websites with content management systems for easy updates
- Generated flash based applications and websites

- Worked closely with partners to develop scopes of work
- Administered LAMP / WAMP servers at Rackspace

Technology

Environments: Linux/Unix (Amazon Linux, CentOS, RHEL), Windows (Server 2012), MacOS

AWS Cloud: EC2, ELB, RDS, SES, S3, Cloudfront, IAM, Lambda, Route53, API Gateway, DynamoDB

Languages: PHP, Javascript, SQL, CSS, HTML, XML, Actionscript, NodeJS, Python, Ruby

Databases: MySQL, CouchDB, SQLite, MongoDB, MSSQL Server

Frameworks: CakePHP, jQuery, Bootstrap

Source Control: Git, Subversion

Applications: Adobe Creative Suite (Photoshop, Flash, Illustrator, Acrobat, InDesign, Fireworks),
Microsoft Office, qGIS, ArcGIS

Atmospheric Science: LDM, Gempak, Matlab

Education

**University of Michigan
College of Engineering**

**2004 - 2005
Ann Arbor, MI**

Received M.S. Atmospheric Science with focused study in GIS/Remote Sensing and a GPA of 7.5/8.0.

**University of Michigan
College of Engineering**

**2000 - 2004
Ann Arbor, MI**

Received B.S. Atmospheric Science and graduated MAGna Cum Laude with GPA of 3.67/4.0.

Areas of Technical Expertise

Front-End Web Application Development. Developed a number of applications using standards-compliant HTML/CSS and Javascript and mobile responsive technology. Introduced CSS frameworks (Twitter Bootstrap, Grid 960) to the department for reliable responsive designs. Created Javascript apps within larger applications to push the boundaries of traditional websites. Used a number of Javascript frameworks (jQuery, jQueryUI, Bootstrap, d3.js) to reduce development time and costs. Incorporated a number of Javascript charting technologies to produce engaging data visualizations.

Back-End Web Application Development. Developed applications using open source technology, mainly PHP and MySQL. Used PHP frameworks (CakePHP) to reduce the development time for applications. Used scripting technology to automate redundant tasks wherever possible. Coded with Active Record objects for secure access to databases.

Database Design and Development. Routinely provided team with database diagrams of modeled data structures to facilitate collaboration within the team. Deployed websites with various types of databases including MySQL, SQLite, ElasticSearch, MSSQL, and CouchDB. Introduced the department to no-SQL data storage and its advantages. Hosted databases on Amazon Web Services' RDS and EC2. Tuned databases to ensure maximum performance output. Constructed backup scripts for external databases.

Server Administration. Managed websites on Linux and Windows servers. Configured and tuned Apache web server on both Windows and Linux. Deployed web applications using Apache, PHP, and MySQL using Amazon EC2 Linux on Amazon Web Services. Monitored servers for uptime and responded when issues arose. Routinely checked and ran server patches and updates. Migrated websites between various environments and servers and structured applications to make this migration as easy as possible. Participated in the Authorization to Operate (ATO) process for government projects.

Cloud Hosting. Deployed and maintained cloud-based development, staging, and production environments using Amazon Web Services. Maintained and extended complex load balanced setups consisting of Amazon Elastic Beanstalk and Elastic Block Store (EBS)-backed Linux and Windows Elastic Compute Cloud (EC2) instances. Scaled existing instances up and down to handle more or less load depending on traffic to manage client costs. Integrated S3-based file storage. Utilized Simple Email Service (SES) to send email from cloud-based applications. Configured security groups and virtual private clouds to control access to cloud-based servers. Deployed databases using Relational Database Service (RDS). Created and shared AMI snapshots to migrate code and data between various accounts. Configured IPv6-ready applications using Elastic Load Balancer. Deployed and managed scalable API and static website using cloud.gov.

API Integration. Consumed Twitter API to display tweets in custom user interface widget. Deployed Google Drive Picker to allow users to select, use, and share files from their Google Drive accounts within a web application. Developed workflow utilizing a document viewer service, thumbnail service, and web encoding service to allow for previews of user-submitted documents, websites, and videos. Pulled data from Google Analytics API to provide metric dashboard for administrators without having

the need to log in to Google Analytics. Employed single sign-on library to allow users to log in to website using credentials from an assortment of providers (Google, Twitter, LinkedIn, etc.).

Creative Suite. Used Photoshop, Fireworks, and Illustrator to communicate ideas with design teams and to turn static images into websites. Used Javascript to script Photoshop to automate redundant tasks. Developed Flash applications and animations. Produced user guides and other print friendly documents using InDesign. Encoded videos using Adobe Media for playback on various devices over the Web.

Geographic Information Systems. Used Quantum GIS to produce static maps for use in reports and on websites. Used D3.js along with geoJSON to produce dynamic maps for use on the Web. Employed python scripts and Quantum GIS to bulk generate maps quickly and with a uniform look and feel.