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IBM - Emerging Technology

Scala & Spark, Austin, TX July, 2014 - Present

- **Spark Kernel** - maintainer of IBM Spark Kernel
  - Co-architect for kernel structure using akka
  - Implemented thread grouping mechanism to capture and redirect JVM output based on where content was executed (user/kernel)
  - Developed Comm API interface for more detailed communication
  - Developed initial magic plugin interface for IPython-like magics
- **SPARK-4923** - Updated Spark REPL API to only expose necessary methods (based on experience) and wrote Scaladocs for all public API methods
- **SPARK-3256** - Developed and contributed fix to Apache Spark involving dynamically loading libraries into the Spark shell (a Scala REPL wrapper) without needing to restart the interpreter
- Explored core, streaming, and SQL aspects of Apache Spark in a distributed environment with large datasets
- Gained experience working with *Akka* for asynchronous and distributed application development
- Utilized *Scalatest* framework for isolated unit testing and integration testing in a TDD (test first) manner

Docker, Austin, TX January, 2014 - Present

- Wrote Dockerfiles for a variety of situations including Postgres databases, Ruby web applications, and Scala applications
- Demonstrated to an internal audience the ability to run graphical applications (vim, IntelliJ, Firefox) through Docker, including remotely connecting to those applications for a *pair programming* experience

Ruby & SoftLayer, Austin, TX April, 2014 - July, 2014

- Implemented layer on top of *SoftLayer* API to bring up and tear down virtual instances
- Wrote *Ruby* application utilizing *Rails* for *RESTful* web services
- Wrote *Javascript*, *HTML5*, and *CSS3* for responsive web frontend utilizing Ruby templating to connect to Ruby web service

NodeJS & Python, Austin, TX January, 2014 - March, 2014

- Wrote *NodeJS* application utilizing *Express* for *RESTful* web services and *Mocha* with *Chai* for unit testing
- Wrote *Javascript*, *HTML5*, and *CSS3* for responsive web frontend utilizing built-in templating engines provided through Express to connect to the web services
- Wrote *Python 2* application utilizing *Flask* for *RESTful* endpoints and *scikit-learn* for simplisitic machine learning using binary linear regressions and clustering (k-means)