Web and Mobile Application Developer Web and Mobile Application Developer Web and Mobile Application Developer - TerraSense West Melbourne, FL Work Experience Web and Mobile Application Developer TerraSense November 2016 to Present   Worked with ReactJS and ReactMobile to develop web and mobile applications for the monitoring of environmental data, such as air quality and soil quality, received from the companies' in-house sensors.   Worked with Tensorflow to create a time series, LSTM-based, AI system to predict future values of the data for predictive analysis.   Flew to the country of Armenia to present the technology to the Chief of Staff to the Prime Minister for country wide adoption. Geospatial Intelligence Agency November 2015 to November 2016 Harris Employee: Geospatial Algorithms   Worked with PostGIS, ArcGIS and Python to create Content Maturity Metric algorithms for NGA's (National Geospatial Intelligence Agency) geospatial data that continue to be run on a monthly basis over 100+ countries. Converted raster (satellite images) 250+ gigabyte quantities of raster data into vector geometry for PostGIS analysis. The integration of multiple raster images from several satellite and imagery providers lead to the creation of an automated BUA (Built Up Area) detection tool down to 10 meters of precision.   Designed and implemented an automated load balancing system for restoring databases, running metrics, handling threads, cores, and cleanup. Network Python Developer and GOES-R development May 2013 to November 2015 Wrote automated python analysis tools for multi-VRF (Virtual Routing and Forwarding) networks on the GOES-R ground control network Wrote backend Android services to interface between custom hardware and the application on the device. Wrote front-end custom user-interface controls for Android   Created RESTful web application portals for VM (Virtual Machine) management using HTML5, Bootstrap, JQuery, PHP, and javascript.   Won 1st prize in a Harris-Intel partnership by creating a custom fire emergency response system using Intel Edison units that continuously monitored data from physical sensors connected to the Edison and conveyed real-time fire and personal data, and their origin within the simulated house, via a web interface using AWS IoT and Amazon S3 Researcher Network Virtualization and Security July 2013 to December 2013 While at Florida Tech, helped create a system that virtualizes arbitrarily complex network topologies in order to perform security analysis

(penetration testing) on them. The system included a web application front-end that allowed the user to simply select what configuration they wanted, routers/Virtual Machine images/switches/etc, and the system would dynamically create the configuration while load balancing behind the scenes.

Graph Databases / Social Media - Grant, FL October 2012 to July 2013 Used NoSQL technologies such as Neo4j, InfiniteGraph, and Gephi in order to encapsulate information from social media sources, such as Twitter. The relationships were fed live into Gephi from a python server and were color-coded based on the sentiment of the tweet, which was determined via a Bayesian AI in Ruby.

Stress-tested MySQL, MS SQL Server, and MarkLogic on their ability to handle 100s of gigabytes of spatial data. Also Stress-tested a local instance of MySQL versus an instance of MySQL running on Amazon's RDS service, both using spatial data. Android Developer May 2011 to May 2013 Official Florida Tech Application Co-wrote from scratch, pro-bono, the official android mobile application for Florida Institute of Technology. The app demonstrates use of JSON through its map, directory, and dining services, SQLite in its newsreader and directory, and threading, in streaming WFIT radio. Source control, via git, was used extensively from the beginning. The application was featured in Florida Today. 1st Place at Florida Tech Hackathon 2013 to 2013 Enterprise Software Created a web application using Ruby on Rails that functioned as an internal social network to exchange information for employees. Presented the software to simulated venture capitalists in a business-oriented manner. Won $2500. Education BS in Computer Science in Computer Science Florida Institute of Technology - Melbourne, FL August 2010 to December 2013

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