Melissa M. Patterson

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Summary

After serving 4 years in the Air Force, I decided to switch gears and dive into something I've always been passionate about, programming. Since November 2014, my proficiency in programming has increased exponentially. I'm now extremely comfortable querying API's, building databases using postgreSQL and MongoDB, building full stack web applications in Rails and Meteor, manipulating DOMs with JQuery, AJAX, and CSS, and writing test suites with Rspec. It's been an amazing experience and really just the start of a continual journey that is software development.

Experience

Makersquare Austin, TX
Student Nov 2014-Feb 2015

- Full stack web application immersive aimed at developing JavaScript and Rails Engineers
- Engineered a Rails application with a test suite that uses rspec, factory girl, and TravisCI. Users are authenticated with the Devise gem. The front end was built with JavaScript, JQuery, CSS. https://github.com/MelizzaP/story-time.
- Headed a 5 person team in the development of an events application that was fully launched in 2 weeks. Rails backend and an Ember front end that are both completely self sufficient. The backend queries 3 APIs through threading to provide search data 3 times faster and delivers it via RESTful endpoints. The front end displays the events on a map interface. https://github.com/remember-me
- Built a group playlist manager using Meteor and the Spotify API. Managed functionality of user interface, as well as communication with the Spotify API. Launched in 4 days https://github.com/lemurgency/music-snob.

Air Force Research Lab Fort Sam-Houston, TX
Lead Laser Evaluation Physicist Nov 2010 – *Nov 2014*

- Lead a seven member laser evaluation team with an annual budget of $1.5M, managing laser safety for 33 programs, 200+ personnel and a $50M facility.
- Collected and presented data on high energy laser backscatter studies at an international laser conference with 23 countries represented
- Performed over 30 on-site, in depth technical evaluations of complex laser systems.
- Purchase and maintain $5.6M worth of research equipment, ensure all items are calibrated and appropriate for individual experiments.
- Developed and tested new ESRI based software for Air Force-wide implementation, replacing antiquated software and increasing accuracy by 26%.
- Engineered searchable database for all Air Force laser systems, a template other branches of the military have since emulated.
- Designed and built a device that redistributes high power laser energy making measurement two times faster and much safer by eliminating stray beams.
- Overhauled $2M high energy laser backscatter study by upgrading equipment, methods, and personnel advancing the technology of weaponized laser systems.
- Published 30 technical reviews and two studies for external customers.

Education

University of Virginia Charlottesville, VA
Bachelors - Physics May 2010

Community Involvement

Meetup - Regular attendee of JavaScript and Ruby geared meetups
Science Mentor - at a local elementary school as part of an after school program. Every other week I would tutor grade schoolers in science.
Improv - Active member of the improv scene. Including a San Antonio based improv troupe that performed for many charity organizations, such as Rotary Youth Leaders of America and the Hydrocephalus Foundation