

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

Student

Austin, TX
Nov 2014-Feb 2015

- Full stack web application immersive aimed at developing JavaScript and Rails Engineers
- 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

Lead Laser Evaluation Physicist

Fort Sam-Houston, TX
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
Bachelors - Physics

Charlottesville, VA
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