

## Joe Rickard

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Boulder CO

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### PROJECTS

**Dalvonic:** This project started as an entry for HackCU 2016. It is an application that uses NLTK to provide a user with visual opinion analysis. Data is taken off Twitter, related by user ID and hashtags, allowing us to display the opinions of a set of users on one or more topics. This was written in Python using the Flask framework; CSS and JavaScript make up the front-end.

**Linear Algebra Library:** I've taken the time to write a C++ library to complete linear algebra functions for data analysis. While some already exist, I used this as an opportunity to further cement my understanding of the maths. With this Library I can take CSV inputs from a data set and end with node coordinates from a spectral clustering algorithm. This allows a user to visualize data similarity and distribution with a front end library such as D3.

**Neural Network:** I've worked with the N.E.A.T. genetic machine learning algorithm, attempting to optimize energy usage in heating a building. This work was done using C++. My models never reached a level of complexity where the results were usable, but the experience was valuable nonetheless. I am still interested in this problem, and intend to continue development on environmental control algorithms.

**SQL Query Work:** I've done freelance SQL Query production for a Boulder start-up aiding their new version release. This included writing new queries, updating old queries, and optimizing much of the existing code. This was done in mySQL through SequelPro.

### COMPUTER SKILLS

**Languages:** C++, Java, Python, Bash, SQL, x86 Assembly

**Web Development:** HTML, JavaScript, D3, Flask, Kore

**Github:** /joerickard

### EXPERIENCE

**IT Administrator** Lab for Atmospheric and Space Physics  
02/15-Present Boulder CO

I've worked with customers directly, solving their issues on Windows, OSX, RHEL, and Solaris. I have also dealt with VMWare, Docker, Chocolatey, Nougat, Landesk, and Agile workflows in a professional environment.

**Data Analysis** First Analysis  
06/13-08/13 Chicago IL  
Over this short internship I collected and summarized financial data sets. I earned my MOS certification in Excel over this period.

**Barista-Manager** Alchemy Coffee House  
06/10-08/14 Wilmette IL  
I worked in this coffee shop through highschool. As one of two/three employees over the four years, my job consisted of everything from stock management to serving beverages and roasting coffee.

### EDUCATION

**University of Colorado**, Boulder, CO  
*Seeking Bachelors:* Computer Science and Mathematics, expected May 2018

**New Trier High School**, Chicago, IL  
*Coursework:* classes in Java and Basic, AP credit earned for Java knowledge