

# LUKE ARMBRUSTER

## DATA ANALYST

## Employment

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### General Assembly Data Science Student

San Francisco, CA  
Nov 2016 to Feb 2017

Three-month, full-time immersive course requiring hands-on work needed to be a successful data scientist.

- Used multi-class logistic regression to classify mainstream, fake, conspiracy, and satire Facebook posts by training the model on 9 million engagement counts and 1-2 word grams from 270 thousand posts on 129 news pages. Achieved 16% increase in accuracy above baseline.
- Analyzed data on business and user information on Yelp to build a model to determine whether a business is located in Las Vegas. Achieved model accuracy of ~63% above baseline.
- Cleaned Ames housing data, carefully imputed missing values, identified strong relationships between housing characteristics, applied linear regression with regularization to predict sales price to achieve a ~80% accuracy.

### Environmental Science Associates Technical Analyst/Writer

San Francisco, CA  
Apr 2014 to Apr 2016

Full-time position at an environmental consulting firm assisting with a wide range of environmental engineering and planning services for clients primarily in San Francisco.

- Using Excel and ArcGIS, cleaned, wrangled, and analyzed a variety of datasets describing hydraulic, hydrologic, and water quality characteristics for environmental impact assessment, engineering modeling, and/or design efforts (see bullet below).
- Provided engineering modeling in HEC-RAS and drafting support in AutoCad for impact assessments of water projects including watershed restoration/improvements and fluvial channel enhancements.
- Created maps in ArcGIS for use in planning, permitting, and design documents.

### Humboldt County Department of Public Works Engineering Aide

Eureka, CA  
Jun 2013 to Nov 2013

Coordinated and conducted Caltrans laboratory tests of base rock, concrete, and hot mix asphalt used in the repair of roadways throughout Humboldt County.

- Analyzed test results in Excel to ensure that the quality of construction materials met state requirements.
- Traveled extensively throughout Humboldt County to collect field samples and conduct compaction tests.
- Communicated Caltrans test results to supervisor and project engineer.
- Developed a tutorial of a testing method for training future engineering aides.

### Humboldt State University Office of Sustainability Sustainability Intern

Arcata, CA  
Jan 2013 to May 2013

Assisted university officials with efforts to quantify indirect greenhouse gas emissions due to campus activities and provided recommendations to improve existing data resources.

- Researched methods of calculating indirect greenhouse gas emissions from university operations and identified improvements needed to update existing estimates.
- Used ArcGIS to evaluate the performance of a tool for estimating greenhouse gas emissions from daily commuting by the campus community and presented recommendations to university officials.

### U.S. Department of Energy Climate Change Research Fellow

Berkeley, CA  
Jun 2010 to Aug 2010, Jun 2009 to Aug 2009

Using the Statistical Programming Language R, worked with researcher Dr. Marc Fischer on projects that assisted him in the effort to verify inventory estimates of greenhouse gas emissions, primarily over Central California, using an inverse modeling technique.

- Corrected a time varying offset in mixing ratio measurements of greenhouse gases from a precision gas system instrument.
- Estimated the error in wind velocity predictions from a weather forecast model and presented research findings to climate change researchers in Knoxville, Tennessee.

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## Education

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### General Assembly

Certificate Data Science 2017

Three-month, full-time immersive program

### Humboldt State University

B.S. Environmental Resources Engineering  
(ABET accredited) 2013

## Skills

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SQL

Python/NumPy/Pandas/Matplotlib

Excel

R

ArcGIS

AutoCad

Visualizations

Identifying suitable data sources

Cleaning data

Munging data

Generating & interpreting statistics

Technical communication

Impact driven