

LUKE ARMBRUSTER

Employment

General Assembly Data Science Teaching Assistant

Assisting students in the Data Science Immersive program with the analysis of a variety of real world datasets for addressing challenging problems using exploratory data analysis, statistical analysis, and machine learning.

San Francisco
Apr 2017 to Current

General Assembly Data Science Student

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

San Francisco, CA
Nov 2016 to Feb 2017

- 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 Associate II (Data Analysis, Visualization, Modeling, & Technical Writing)

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.

San Francisco, CA
Apr 2014 to Apr 2016

- 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.
- Assisted with project management and technical writing of environmental impact reports for energy, water utilities, and community development projects primarily in San Francisco. These documents were written for a public audience in accordance with federal, state, and local regulations and guidelines.

Humboldt County Department of Public Works Engineering Aide (QA Testing & Instruction)

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

Eureka, CA
Jun 2013 to Nov 2013

- 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 (Greenhouse Gas Emissions Data Analysis)

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

Arcata, CA
Jan 2013 to May 2013

- 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 (Instrument & Modeling Error Investigation)

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.

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

- 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.

✉ lukearmbruster@gmail.com

🔗 lukearmbruster.github.io

📞 (707) 497-9356

📍 San Francisco, CA

in lukearmbruster

🔗 lukearmbruster

Education

General Assembly

Certificate Data Science 2017

Three-month, full-time immersive program with an emphasis on data querying in SQL, and data cleaning, data visualization, statistical analysis, and machine learning in Python.

Humboldt State University

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

Emphasis in programming, numerical methods, modeling, statistical analysis, microeconomics, and technical writing.

Skills

Specific

SQL

Python

NumPy/Pandas/Matplotlib/Seaborn/Scikit-Learn/NLTK/SciPy

R

ArcGIS

Excel

Fortran

Tableau

AutoCAD

General

Technical communication

Visualizations

Data cleaning

Data munging

Identifying suitable data sources

Regression

Feature Selection

Supervised & Unsupervised Learning

Bayesian & Frequentist Statistics

Clustering