Bill Engels

503-740-7435 • w.j.engels@gmail.com • github.com/bwengals

Relevant Experience

Open Data Group **River Forest, IL**

Member of Technical Staff *10/2014 – 8/2016*

- Worked on an assortment of behavioral models for computer network traffic. Developed and implemented a set of Hadoop and Spark jobs (aggregations, regressions, clustering) that searched for anomalous behavior in terabyte-scale data.
- Created suite of dynamic visualizations of live data streams (D3.js) and static daily reports summarizing analytics (LaTeX, HTML, Matplotlib).
- Helped industrial data science client productionalize their machine learning models (e.g. gradient boosted trees, logistic regressions).
- Software development for the Hadrian analytics engine, including the prediction methods of common machine learning models such as SVMs, GLMs, Naive Bayes and basic Neural Nets, exporter for objects produced by R's *gbm* package, also the library of probability distributions, CDFs, and QFs and associated unit-tests and documentation.

LIGO Scientific Collaboration

Guest member of Caltech CaRT group, University of Oregon *2012 – 6/2016*

- Bayesian approach parameter estimation on uncertain supernova signals buried in noisy LIGO detector data. Publication in preparation.
- Author on first gravitational wave detection paper, Phys. Rev. Lett. 2016.
- First author publication, Phys. Rev. D. 2014. A multivariate multiple regression analysis of complex-valued simulation data.
- Presentations: PCGM31, March 2015, Caltech Supernova group, July 2014

Open Source Contributions

PyMC3

Probabilstic Programming

- Contributor, Gaussian Process covariance functions

Histogrammar (Python)

High performance histogram-style data aggregations in distributed environments

- Matplotlib built-in plotting methods.

Skills

Programming: Python, R, Scala, Matlab

Statistical: EDA, Regression Analysis, clustering, Bayesian modeling, algorithm implementation

Technology: Git, SQL, AWS, Spark, Hadoop, D3.js, Linux

Education

University of Oregon **B.S.**

Physics *2013*