AARON MAURER

1267 Page St, Apt F ◇ San Francisco, CA 94117
610 · 515 · 8858 ◇ ajmaurer89@gmail.com
www.github.com/ajmaurer

SUMMARY

Statistician and Data Scientist with a zeal for leveraging programing skills, theoretical knowledge, and practical knowledge to answer hard questions with big data. Looking for difficult problems to solve through thorough and thoughtful analysis.

Specialties: Nonparametric, Bayesian, and Classical statistics; Large Scale Data Mining; Machine Learning; Mathematical Optimization; Econometric Modeling; Microsimulation

EDUCATION

Masters of Science in Statistics *Expected August 2015*
University of Chicago - Chicago, Illinois
Thesis: *Using Probabilistic Knockoffs of Binary Variables to Control the False Discovery Rate*
Selected Coursework: Machine Learning and Large-Scale Data Analysis, Bayesian Analysis, Nonparametric Inference, Convex Optimization, Mathematical Statistics, Generalized Linear Regression

Bachelor of Arts in Mathematics & History, Cum Laude *June 2011*
Carleton College - Northfield, Minnesota
Distinction in the Math Major, Sigma Xi, Varsity Football & Track

PROFESSIONAL EXPERIENCE

Acumen, LLC Burlingame, CA
Policy Associate *August 2011 - August 2014*

Worked closely with various federal agencies answering empirical questions using healthcare data.

- Preformed data mining on large Medicare and Medicaid enrollment and payment data sets.
- Built statistical and econometric models.
- Developed statistical graphics to visualize trends in data.
- Worked with clients to include subject specific knowledge in analysis and explicate results.
- Selected Projects include:
  - ◇ ***Market and Enrollment Projections of the Affordable Care Act***
    - Developed microsimulation model that calculated effects of the law on a person level basis.
    - Employed multiple regression models to impute insurance takeup in novel circumstances.
    - Predictions used to dictate allocation of $25 billion in federal spending.
  - ◇ ***Flu Vaccine Comparative Effectiveness***
    - Carefully designed a test and control sample to mitigate exogenous confounding factors.
    - Implemented and tested several regression models to measure effectiveness while controlling for other independent factors, varying hazard, and mis-measurement of outcome.
    - Results published in epidemiology journal.

◇ ***Financial Projections of Policy Reform***

- Projected budget impact of Bipartisan Policy Center Medicare reform program.
- Developed model for beneficiary level expenditures under numerous policy changes.
- Bottom line estimates included in final report on the Domenici-Rivlin plan

◇ ***Active Surveillance of Flu Vaccine Safety***

- Tracked approximately 15 million yearly vaccinations in Medicare population.
- Provided FDA with an estimate of post vaccination hazard of Guillain-Barre syndrome.
- Employed sequential probability test to signal when hazard was above historical levels.

The Institute for Mathematics and its Applications Minneapolis, MN
Undergraduate Researcher *June 2010 - July 2010*

Researched outstanding graph theoretic problems under mathematics and computer science professors.

- Proved novel results about pursuit evasion games.
  - ◇ Gave talk on work at the Joint Mathematics Meeting.
- Helped program algorithm to classify graphs with respect to games of cops and robbers.

OTHER SELECTED PROJECTS

- Used City of Chicago crime database to estimate effect of weather on citywide robbery rate.
  - ◇ Tested both kernel regression and generalized linear regression models.
- Employed Bayesian Dirichlet allocation model to categorize Wikipedia articles by topic.
  - ◇ Fit k-medians clustering to group similar articles by subject based on sparse topic set.
- Built reguarlized regression model to predict tweet sentiment and fit it with stochastic gradient descent.
- Predicted overall beer review score based on review text content with random forests and gradient boosted trees.

TECHNICAL SKILLS

Programing Languages	Python, Stata, SAS, R, SQL, Visual Basic, Some MATLAB
Programing Tools	Apache Spark, AWS, MapReduce, LaTeX, Git, SVN
Operating Systems	Linux, Windows, Mac OS

PUBLICATIONS

- W. Baird, A. Beveridge, A. Bonato, P. Codenotti, J. MacCauley, A. Maurer, S. Valeva, "On the minimal order of k-cop-win graphs", *Contributions to Discrete Mathematics*, Vol. 9, No. 1 (2014), pp. 1-15
- Hector Izurieta et al., "Comparative effectiveness of high-dose versus standard-dose influenza vaccines in US residents aged 65 years and older from 2012 to 2013 using Medicare data: a retrospective cohort analysis", *The Lancet*, Vol 15, No. 3 (2015), pp. 293-300

MISCELLANEOUS/PERSONAL

Erdos Number of 3; has or will soon visit all but 4 of continuous 48 states; expert on Byzantine military history; former member of International Brotherhood of Teamsters; loves boardgames