

Olivia C. Lau

Voice: (617) 694-8763
E-mail: olivia.lau@post.harvard.edu
Web: <http://www.OliviaLau.org>

INTERESTS

Causal inference, experimental design, survey experiments, statistical (cloud) computing

WORK HISTORY

Google, Inc. Mountain View, CA
Senior Quantitative Business Analyst, Small and Medium Business Sales October 2012 - present

- Employed propensity score matching, instrumental variables estimation, and other causal inference techniques to estimate program revenue impact
- Completed system of machine learning models to identify top spending accounts within 7 days of signup, deployed to markets covering 85% of AdWords revenue
- Built random forest models to identify which treatments should be pitched to which customers
- Developed automated SQL-based pipelines for targeted email blasts to AdWords customers
- Analyzed incremental revenue impact of email programs using a propensity score matching model

Senior Strategist, Product Quality Operations October 2011 - October 2012

- Analyzed click traffic from Google's AdSense publishing partners
- Developed histogram distance measure approach to identifying accounts with high fraud potential
- Designed and implemented regression-based model to identify trustworthy accounts

Food and Drug Administration Silver Spring, MD
Senior Statistician, Office of Planning and Informatics, CDER September 2009 - October 2011

- Evaluated FDA's regulatory performance under the Prescription Drug User Fee Act
- Designed and executed statistical study comparing FDA and the European Medicines Agency
- Managed a \$600,000 contract and a team of consultants to study multiple chronic conditions

Statistical Reviewer, Office of Biostatistics, CDER July 2008 - September 2009

- Analyzed patient-level clinical trials data to identify potential safety concerns in proposed drugs
- Advised pharmaceutical company executives on experimental design and clinical trials conduct

AES Consulting, LLC (currently Compass Lexecon) San Francisco, CA
Research Associate September 2001 - August 2002

EDUCATION

Harvard University Cambridge, MA
A.M., Statistics June 2006

Ph.D., Political Science (concentration in statistical methods) June 2008

- Courses: Bayesian data analysis, hierarchical (multi-level) models, causal inference and experimental design, survival risk analysis, general linear models, and exploratory data analysis

Stanford University Stanford, CA
A.B., Economics; History (with high honors) June 2001

- Awards and honors: Phi Beta Kappa, Omicron Delta Epsilon, Stanford-in-Washington Fellow, undergraduate research grant for fine art photography, Stanford-in-Oxford

PUBLICATIONS / STATISTICAL SOFTWARE

Jonathan Wand, Gary King, and Olivia Lau. "Anchors: Software for Anchoring Vignette Data." *Journal of Statistical Software*, vol. 42, no. 3 (June 2011), pp. 1-25

Software available as anchors on CRAN

Kosuke Imai, Gary King, and Olivia Lau. "Toward a Common Framework for Statistical Analysis and Development." *Journal of Computational and Graphical Statistics*, vol. 17, no. 4 (December 2008), pp. 892-913

Software available as Zelig on github

Olivia Lau, Ryan T. Moore, and Michael Kellermann. "eiPack: R C Ecological Inference and Higher Dimension Data Management." *R News*, vol. 7, no. 2 (October 2007), pp. 43-47

Software available as eiPack on CRAN

CONSULTING EXPERIENCE

Professional Short Course: "A Crash Course in R Programming"

UseR! 2010 Conference, National Institutes of Standards and Technology

August 2010

UseR! 2012 Conference, Vanderbilt University

June 2012

- 4 hour covering the fundamentals, object oriented programming, proper lexical scoping, profiling and code optimization, and calling C/C++ and other foreign functions from R

USAID "Voices from the Field" Project

Prime: Management Systems International

June - September 2010

- Designed survey questionnaire, including anchoring vignette instruments
- Instructed USAID staff on the use and interpretation of survey data

SELECTED PRESENTATIONS AND COURSES TAUGHT

- Statistics.com: "Intermediate R Programming" and "Advanced R Programming", 2012-present
- Short Course: "A Crash Course in R Programming"
- Plenary Talk: "Toward a Common Framework for Statistical Analysis and Development." Directions in Statistical Computing, Auckland University, New Zealand, 2007. Earlier version presented at 2006 UseR! Conference, Wirtschaftsuniversität Wien, Vienna, Austria
- Presentation: "Ecological Inference and Higher-Dimension Data Management." UseR! Conference, Wirtschaftsuniversität Wien, Vienna, 2006
- Head Teaching Fellow: "Advanced Political Methodology" (Prof. Gary King), 2004

PROFESSIONAL SERVICE

- Member, American Statistical Association
- Organizing committee, 2016 UseR! Conference
- Organizing committee, 2010 UseR! Conference
- Program committee, 2007 UseR! Conference
- Reviewer, *Journal of the Royal Statistical Society, Series A*
- Reviewer, *Computational Statistics*
- Reviewer, *Journal of Politics*

SKILLS AND CERTIFICATIONS

- 10+ years experience with R / S-plus, including open-source package development
- 8 years experience with cloud computing, including writing shell scripts
- L^AT_EX ninja (including dissertation template design, custom client template design, Beamer)
- Other languages: SQL, Python, JAGS, STATA, SAS on Linux and Windows platforms
- Expert Microsoft Office skills (including Word, Excel, Powerpoint, and Project)
- Federal Acquisition Certification for Contracting Officer Technical Representative

References available upon request.