

CURRICULUM VITAE

MASANAO YAJIMA

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Education

2013 Ph.D. in Statistics at the University of California Los Angeles, USA
2006 M.A. in Statistics at the Columbia University, Department of Statistics, USA
2000 Undergraduate Studies in Policy Studies at the Kwansei Gakuin University, Japan

Research Interest

Multivariate Analysis, Hierarchical Model, Multiple Comparison, Statistical Computing, Missing Data Imputation, Network Modeling, Bioinformatics (Metagenomics, Proteomics, Transcriptomics), large data, research reproducibility

Publication

In review Alessandro Bitto, Takashi K. Ito, Victor V. Pineda, Nicolas J. LeTexier, Heather Z. Huang, Elissa Sutlief, Herman Tung, Nicholas Vizzini, Belle Chen, Kaleb Smith, Daniel Meza, Masanao Yajima, Richard P. Beyer, Kathleen F. Kerr, Daniel J. Davis, Catherine H. Gillespie, Jessica M. Snyder, Piper M. Treuting, and Matt Kaerberlein “Transient rapamycin treatment increases lifespan and healthspan in middle-aged mice” *eLife*

2015 Masanao Yajima, Greg Finak, Andrew McDavid, Jingyuan Deng, Vivian Gersuk, Alex K. Shalek, Chloe K. Slichter, Hannah W Miller, M. Juliana McElrath, Martin Prlic, Peter S Linsley, Raphael Gottardo. “MAST: A flexible statistical framework for assessing transcriptional changes and characterizing heterogeneity in single-cell RNA-seq data.” *Genome Biology*

2014 Masanao Yajima, Donatello Telesca, Yuan Ji, and Peter Muller. “Differential Patterns of Interaction and Gaussian Graphical Models” *Biostatistics*

2012 A. Gelman, J. Hill, M.Yajima, “Why we (usually) don’t worry about multiple comparisons” *Journal of Research on Educational Effectiveness*

- 2009 Y. Su, A. Gelman, J. Hill, and M. Yajima “Multiple imputation with diagnostics (mi) in R: Opening windows into the black box”. *Journal of Statistical Software*.
- 2006 L. Paninski, M. Yajima, “Undersmoothed kernel entropy estimators” *IEEE Transactions on Information Theory*
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White paper / Manuscripts / Books

- 2016 J. de Leeuw, M. Yajima “APL in R” (<https://bookdown.org/jandeleeuw6/apl/>)
- 2011 M. Yajima, J. de Leeuw “PCA and Factor Analysis For Large Data With RevoScaleR”
Submitted to Revolution Computing
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Working Experience

- 08/2013-present Postdoctoral Scholar at Fred Hutchinson Cancer Research Center, USA
Overview: Developing and applying method for analysis of high throughput omics data. The work involve dealing with wide range of data including single cell RNA sequence data on immunology study to metagenomics and proteomics data for aging study.
- 01/2011-06/2012 Graduate Student Researcher at UCLA Center for Statistical Computing, USA
Overview: Worked with Revolution Analytics, Inc and Jan de Leeuw to extend the large data capability of Revolution R. We developed several functions to perform Multivariate Analysis on a large data by adding new features to RevoScaleR library.
- 08/2010-06/2012 Graduate Student Researcher at UCLA Center for Statistical Computing, USA
Overview: Worked with Professor Jan de Leeuw to develop high performance computing R package utilizing parallelization platforms such as Open MP, and MPI.
- 01/2010-08/2011 Graduate Student Consultant at UCLA Center for Statistical Consulting, USA
Overview: Worked as a statistical consultant on walk in projects and gave mini-courses on R. I also mentored junior consultants and gave advices on their projects.
- 06/2009–12/2009 Graduate Student Researcher at UCLA Center for Embedded Network Sensing, USA
Overview: Worked with Mark Hansen, Deborah Estrin, Jeff Burke, and others on Personal Environmental Impact Report (PEIR) projects; reimplementing PEIR web system back end using Python, PostgreSQL, and PostGIS.
- 01/2007–08/2008 Research Associate at Columbia University, Applied Statistics Center, USA (full-time)
Overview: Worked with Andrew Gelman, Jennifer Hill, Peter Messeri, and Yu-Sung Su on multiple projects; constructing flexible and reliable multiple imputation procedures, creating algorithm for fitting multilevel models, exploring alternative to multiple comparison procedure, etc.
- 09/2006–12/2006 Research Assistant for Andrew Gelman at Columbia University, Department of Statistics, USA (part-time)
Overview: Tested and wrote codes for the new flexible multiple imputation R package “mi”.
- 01/2006–12/2006 Research Assistant for Liam Paninski at Columbia University, Department of Statistics, USA (part-time)
Overview: Wrote kernel entropy estimator program using Matlab, and wrote up the result using L^AT_EX.

- 06/2006–12/2006 Research Assistant for Professor Mikhail Chernov at Columbia University, School of Business, USA (part-time)
Overview: Buildt new database for bonds, combining data from Mergent Fixed Income Securities Database, Center for Research in Security Prices, and COMPUSTAT in WRDS.
- 07/2004–12/2004 General Management of Yajima Animal Hospital, Japan (part-time)
Overview: Business startup, building customer management system, billing system, managing publicity, accounting, etc.
- 05/2003–03/2004 Information Technology Education Advisor for City of Kadoma, Osaka, Japan (full-time)
Overview: Built information technology education program for public schools in city of Kadoma, Osaka and taught teachers how to teach information technology. I also taught 1st to 9th graders in four schools in Kadoma, how to use computers. On the side I developed grade management system and websites for schools.
- 04/2000–03/2003 Information Technology Consultant at Deloitte Tohmatsu Consulting, Japan (full-time)
Overview: Buildt and implemented accounting, human resource, and other systems for banks, stock exchange firms, and other financial companies in Japan.
- 09/1998–08/1999 Software programmer for Office Quattro, Japan (part-time)
Overview: Worked on translation of Windows emulator for IBM AS/400 from English to Japanese.
- 09/1996–07/1998 Math and English tutoring at Kaisei Education Center, Japan (part-time)
Overview: Tutored high school students for collage entrance exams.
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Computing Skills

Extensively experienced with programs R/S+, C/C++, Python, SQL, WinBUGS/JAGS/Stan. Able to use MATLAB, Perl, JAVA, Stata, SAS, SPSS, and familiar with databases MSSQL, MS Access, PostgreSQL, Oracle, and MySQL. Experienced in using L^AT_EX for scientific document typesetting.

Scientific Software

- 2015 A. McDavid, M. Yajima, G. Finak, R package “MAST”, Model-based Analysis of Single Cell Transcriptomics for R.
- 2014 M. Yajima, D. Telesca, R package “diffdag”, differential DAG analysis for R.
- 2010 J. Deleeuw, M. Yajima, R package “apl”, implementing APL functions for R.
- 2008 Y. Su, M. Yajima, R package “R2jags”, functions for running jags from R
- 2008 A. Gelman, M. Yajima, M. Grazia, R package “mi”, functions for flexible and reliable multiple imputation using chained equation
- 2007 A. Gelman, Y. Su, J. Hill, M. Yajima, M. Pittau, J. Kerman and T. Zheng, R package “arm”, functions for processing lm, glm, mer and polr outputs.

Fellowships and Awards

08-2015	ISBA Savage Award Honorable Mention
06-2013	WNAR student paper competition first prize
09-2012	UCLA Dissertation Year Fellowship
07-2012	CBMS Regional Meeting 2012 Travel Support
07-2012	ISBA 2012 Graduate Student Travel Award

Invited Talks and Conferences

08-2015	Invited presentation JSM ISBA Savage Award session.
10-2012	Invited presentation at University of Texas Austin SCC Seminar.
10-2012	Invited presentation at Rice University Department of Statistics Colloquia.
08-2012	Presentation at JSM Contributed Paper Section.
07-2012	Poster presentation at ISBA 2012 Kyoto.

References

These persons are familiar with my professional qualifications and my character:

Dr. Raphael Gottardo (FHCRC)

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Dr. Donatello Telesca (UCLA Biostatistics)

PhD Advisor Phone: 310-825-6402
UCLA School of Public Health Room 21-254B CHS Fax: 310-267-2113
Los Angeles, CA 90095-1772 Email: dtelesca@ucla.edu

Dr. Andrew Gelman (Columbia University)

Professor and Project Advisor Phone: 212-851-2142
1255 Amsterdam Avenue Room 1016 Fax: 212-851-2164
New York, NY, 10027, USA Email: gelman@stat.columbia.edu

Dr. Jennifer Hill (New York University)

Professor and Project Advisor Phone: 212-992-7677
246 Greene Street, Room 804 Fax: 212-995-4832
New York, NY 10003, USA Email: jennifer.hill@nyu.edu

Dr. Mahtash Esfandiari (UCLA Statistics)

Senior Continuing Lecturer Phone: 310-825-2732
8941 Math Sciences Bldg. Email: esfandia@stat.ucla.edu
Los Angeles, CA 90095

Dr. Richard Greene (Keio University)

Professor and BA Thesis Advisor Email: richwows@gmail.com