Saisuke Okabayashi

CONTACT INFORMATION
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CITIZENSHIP
USA

RESEARCH INTERESTS
Social network models, exponential families, maximum likelihood, Markov chain Monte Carlo.

EDUCATION

University of Minnesota, Minneapolis **Minneapolis, MN**

Ph.D., Statistics expected in May 2011

- Thesis: "Parameter Estimation in Social Network Models"
- Advisor: Charles J. Geyer
- 2011 Best Dissertation Award nominee
- Selected by department to be student advisor for Wiley-Blackwell publishing, 2009 – 2011
- Selected by department to organize Student-Sponsored Seminar, Spring 2010. Invited speaker: David Hunter from Department of Statistics, Pennsylvania State University

Harvard University **Cambridge, MA**

B.A. with Honors, Applied Mathematics, June 1999

- Emphasis on Economics
- Harvard College Scholarships, 1995-1999

ACADEMIC EXPERIENCE

University of Minnesota, Minneapolis **Minneapolis, MN**

Instructor **September 2008 to present**

- Taught full-year statistical theory class to economics and statistics majors pursuing B.S. degrees
- Devised curriculum, wrote lectures, managed teaching assistant, and assigned grades
- Median scores of 6.0/6.0 in student evaluations on preparedness, clearness of presentation, helpfulness of feedback, respect towards students, and students claim for deeper understanding of subject matter
- Enrollment in course increased to 75 students for 2010 from 65 in 2009 and 35 in all previous years.

Statistical Consultant **September 2007 to May 2008**

- Provided guidance and analysis for graduate students, staff, and faculty in the areas of regression and experimental design
- Met with 80 clients to discuss statistical issues at all stages of research projects, from sampling and design issues to regression, ANOVA, and non-linear least squares analysis

Teaching Assistant **September 2005 to May 2007**

- STAT3011: Introduction to Statistical Analysis, Fall 2005
- STAT3011: Introduction to Statistical Analysis, Spring 2006
- STAT5302: Applied Regression Analysis, Fall 2006
- STAT3022: Introduction to Data Analysis, Spring 2007

Academic Presentations

University of Minnesota, Minneapolis **Minneapolis, MN**
"Confidence Intervals for non-existent MLEs in Exponential Random Graph Models" presented at Mostly Markov Chains Working Group in December 2010.

Bayesian Modeling & Computation for Social Networks **Whistler, BC**
"Long Range Search for Maximum Likelihood in Exponential Families" presented in June 2010.

University of Minnesota, Minneapolis **Minneapolis, MN**
"A Composite Likelihood Extending Pseudo-likelihood for Potts Models" presented at Mostly Markov Chains Working Group in October 2009.

2009 Joint Statistical Meetings **Washington, D.C.**
"A Simple Algorithm for Maximum Likelihood in Exponential Families that Uses Only Gradients" presented in August 2009.

2009 Midwest Statistics Research Colloquium **Chicago, IL**
"A Simple Algorithm for Maximum Likelihood in Exponential Families that Uses Only Gradients" presented in March 2009.

University of Minnesota, Minneapolis **Minneapolis, MN**
"Social Networks and Markov Chain Monte Carlo" presented at Mostly Markov Chains Working Group in May 2008.

Publications

Okabayashi, S. and Geyer, C. J. Long Range Search for Maximum Likelihood in Exponential Families. Revised and resubmitted to *Electronic Journal of Statistics*.

Okabayashi, S., Johnson, L. and Geyer, C. J. (2011). Extending Pseudo-Likelihood for Potts Models. *Statistica Sinica*, **21** 331–347.

Professional Experience

Goldman Sachs & Co. **New York, NY**

Vice President, Fixed Income Sales Strategies **July 2003 to June 2005**

- Collaborated with three sales strategists to compose relative value trade ideas and strategy notes on Treasury, swap, and mortgage markets and distribute to sales force and traders
- Promoted new Constant Maturity Mortgage products, which create a rate-based market out of price-based mortgage-backed securities. Ran back-testing to ensure proper model calibration and wrote educational material. Devised trade ideas, which resulted in some of earliest client transactions in nascent market
- Interacted with cross-product team to tailor hedging strategies for clients fixed income risk
- Promoted to Vice President after five years with firm

Associate, Commodities Strategies **June 2000 to July 2003**

- Structured and priced derivative products to hedge clients exposure to energy prices
- Managed bidding process on auctioned energy trading portfolios. Presented valuation and market/credit risk to sales, trading, legal, and credit personnel; led to acquisitions of distressed portfolios
- Developed Monte Carlo simulation-based Credit Valuation Adjustment technology to calculate market value of credit risk in transactions; educated global franchise to incorporate credit charge into pricing
- Promoted to Associate after two years with firm

Analyst, Energy Derivatives Sales **June 1999 to June 2000**

- Supported senior sales force in Energy trading business by providing pricing, market behavior studies, and client portfolio analyses
- Recommended risk-reducing strategies to North American oil and gas producers, refineries, airlines and utilities
- Executed flow swap and option transactions on oil and oil products, totaling 1MM barrels

TECHNICAL SKILLS Programming: R, C, Goldman Sachs' proprietary development environment.

Applications: LaTeX, Microsoft Word, Excel, Powerpoint.

OTHER

Native fluency in Japanese.