Fei Jiang

Dept. of Statistics
Rice University,
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Research Interests

semiparametric modeling, Bayesian decision-theoretic method, survival analysis and clinical trial design.

Skills

Bspline regression, kernel regression, martingale techniques, dynamic programming, GEE, Bayesian nonparametric theory, convergence of probability measure, functional analysis, functional data analysis, survival curve fitting under stochastic constraints, optimization.

Education

Rice University, Houston, Texas, USA
Ph.D. in Statistics (expected in September, 2013) 2010 – 2013
Advisor: Prof. J. Jack Lee

The University of Texas, Houston, Texas, USA
M.S. in Biostatistics 2007 – 2010
Advisor: Prof. Dejian Lai

Jiangxi University of Finance and Economics, Nanchang, Jiangxi, China
B.S. in International Finance 2003 – 2007

Publications

Fei Jiang, J. Jack Lee and Peter Mueller, A Bayesian decision-theoretic sequential-response adaptive randomization design, published in *Volume 32, Issue 12, pages 1975-1994, Statistics in Medicine, DOI: 10.1002/sim.5735*.

Manuscripts

Fei Jiang, Yanyuan Ma, J. Jack Lee, A semiparametric method for survival analysis, with application to a seamless phase II/III clinical trial design, submitted to *Journal of the American Statistical Association*.

Fei Jiang, Yanyuan Ma, Yuanjia Wang, A time-variate semiparametric single index score method for analyzing repeated measurement data, under preparation.

Fei Jiang, Javier Rojo, Survival function estimations under the stochastic ordering constraints, under preparation.

Conference Talks and Posters

A Bayesian decision-theoretic phase II clincal trial design, in Bayesian Biostatistics Conference 2010, Houston, TX.

A Bayesian decision-theoretic sequential-response adaptive randomization design, in ENAR 2012, Washington, DC.

A Semiparametric approach for designing seamless phase II/III studies with time-to-event endpoints, in ENAR 2013, Orlando, FL.

Research & Working Projects

Rice University, Houston, Texas, USA

Research Assistant 2010 – present

- A Bayesian decision-theoretic sequential-response adaptive randomization design.
  We incorporate Bayesian decision-theoretic method and adaptive randomization to design a phase II clinical trial for evaluating the effectiveness of new treatments. The design minimizes the expected losses and allocates patients to the better treatment arms with higher probabilities. We develop the constraint backward induction and forward simulation methods for implementing the design.

- A semiparametric method for survival analysis, with application to a seamless phase II/III clinical trial design.
  We extend the semiparametric restricted second moment model and the second order efficient estimation procedures to analyze survival data sets. We derive the semiparametric estimating equations, and the asymptotic properties of the resulted estimators. Having demonstrated desirable properties of the model and the estimators numerically, we apply the method to analyze the BATTLE data and design a seamless phase II/III clinical trial.
- A time variant semiparametric single-index score method for analyzing repeated measurement data.
  We apply the single-index score model for a longitudinal data analysis. We combine kernel and Bspline techniques for the parameter estimations. We show the theoretical and numerical performance of the estimators. Having demonstrated the desirable properties of the model and the estimators, we apply the method to analyze the Huntington's disease data set from the COHORT study.
- Survival function estimations under the stochastic ordering constraints.
  We propose an intuitive appealing methodology for the survival function estimation under stochastic ordering constraints. The estimation procedures are easy to implement. The resulted estimators have closed form and desirable asymptotic properties. The performance of the method is competitive to the most recent alternative method.

PROGRAMMING

R, Matlab, LaTeX 2_ε.

COURSES

Mathematic probability I & II, Mathematic statistics I & II, Analysis I&II, Survival analysis, Advanced survival, Optimization theory, Functional analysis, Functional data analysis, Applied stochastic process, Stochastic differential equations, Bayesian data analysis, Advanced Bayesian, Categorical data analysis.

WORKSHOPS AND SHORT COURSES

Bayesian nonparametric statistical methods: theory and applications, in CBMS Regional Conference 2010, University of California, Santa Cruz, CA.

Semiparametric theory and missing data, in JSM 2011, Miami, FL.

Generalized linear mixed models, in JSM 2011, Miami, FL.

TEACHING EXPERIENCES

Mathematic probability, Teaching Assistant, Fall 2010, Rice University
Probability and statistics, Teaching Assistant, Spring 2011, Rice University
Mathematic statistics , Teaching Assistant, Fall 2011, Rice University
RUSIS summer program, Project Leader, Summer 2012, Rice University

HONORS

Rice Graduate Student Fellowship, 2010 – 2012
Excellent Student, Jiangxi University of Finance and Economics 2007

REFEREES

Prof. J. Jack Lee
Professor
The University of Texas, MD Anderson Cancer Center
phone: *1-(713)-794-4158*
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Prof. Dennis D. Cox
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