

FENGNAN GAO

Personal Details

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Homepage: <https://gaofn.github.io/>

Research Interests

Nonparametric Bayesian Statistics

High-dimensional Statistical Inference in Networks

Probabilistic Methods in Networks

Professional Appointments

Sep. 2016 - Assistant professor jointly appointed by the School of Data Science of Fudan University and Shanghai Center for Mathematical Science

Education

Sep. 2012 - Aug. 2016 PhD student of Prof. Dr. Aad van der Vaart
Leiden University, The Netherlands

Sep. 2010 - Sep. 2011 Master of Science in Industrial and Applied Mathematics
Department of Mathematics & Computer Science / EURANDOM
Eindhoven University of Technology, The Netherlands

Aug. 2009 - Aug. 2010 Master of Science in Industrial Mathematics
Department of Mathematics
Kaiserslautern University of Technology, Germany
Aggregate grade: Very good (*Sehr Gut*)

Sep. 2005 - Jun. 2009 Bachelor of Science in Statistics
Department of Mathematics
Nanjing University, China
Major GPA 88/100 Rank 4/43

Papers

2015 Posterior contraction rates for deconvolution of Dirichlet-Laplace mixtures
Eletronical Journal of Statistics
<http://projecteuclid.org/euclid.ejs/1457123508>

2015 On the Asymptotic Normality of Estimating the Affine Preferential Attachment Network Models with Random Initial Degrees
Submitted to Stochastic Processes and their Applications, under revision
<http://arxiv.org/abs/1603.02625>
In preparation

2016 On the Asymptotic Normality of Estimating Parametric Preferential Attachment functions

2015 On the Consistency of Estimating General Preferential Attachment functions

2014 Modeling and Inference of Networks of the Internet Movie Database with Preferential Attachment Model

Selected Talks & Presentations

- Dec. 2016 Invited talk for the closing workshop of *Dynamic Networks*
In *the Issac Newton Institute for Mathematical Science*, To be given in *Cambridge, UK*
- Jul. 2016 World Congress in Probability and Statistics In *Toronto, Canada*
- May 2016 Invited talk in Shanghai Center for Mathematical Science In *Shanghai, China*
- Jul. 2015 European Meeting of Statisticians In *Amsterdam, The Netherlands*
- Jun. 2015 10th Conference on Bayesian Nonparametrics In *Raleigh, NC, The USA*

Academic Activities

- Sep. 2015 Statistics Mathematics and Applications In *Fréjus, France*
- Jun. 2014 Institute of Mathematical Statistics Annual Meeting In *Sydney, Australia*
- Mar. 2014 Spring School of Structural Inference in Statistics
In *Königs Wusterhausen, Germany*
- Nov. 2013 STATS IN PARIS STATISTICS & ECONOMETRICS OF NETWORKS
In *ENSAE, Paris, France*
- Jul. 2013 29th European Meeting of Statisticians In *Budapest, Hungary*
- Jun. 2013 9th Conference on Bayesian Nonparametrics In *Amsterdam, The Netherlands*
- Mar. 2013 Spring School of Structural Inference in Statistics In *Bad Belzig, Germany*
- Sep. 2010 European Summer School in Industrial Mathematics In *Milan, Italy*

Master's Thesis

- Sep. 2011 Master thesis - Modeling and Inference of Internet Movie Database
<http://alexandria.tue.nl/extra1/afstvers1/wsk-i/gao2011.pdf>
Supervisors: REMCO VAN DER HOFSTAD & RUI CASTRO
We analyzed the dataset from the Internet Movie database (IMDb) with Python, MATLAB, SQL from a network perspective. We proposed a modified version of preferential attachment model for the evolution of the movie-actor network of the IMDb. With parameters estimated by statistical procedures, the simulation results resemble the reality. Using probabilistic inequalities and martingale arguments, we proved rigorously that, in the model described, the (movie) degree sequence converges to a explicit sequence as the network size goes to infinity.

Scholarships & Awards

- 2016 IMS travel award *To facilitate travelling for the World Congress in Probability and Statistics to Toronto, Canada*
- 2015 ISBA travel award *To facilitate travelling for 10th BNP conference to Raleigh, NC, The USA*
- 2005 - 2008 Three years of Renmin Scholarships from Nanjing University
Awarded for excellent academic performance

Computer Skills

R, Python, MATLAB, SQL, SAS, C++
Experienced user in \LaTeX as a contributor in China \LaTeX group

Hobbies

Photography, Amateur Road Biking, Rowing