

JIAN LIU

Department of Scientific & Engineering Computing
School of Mathematical Sciences, Peking University, Beijing 100871, China
Tel: 86-10-52767707 E-mail: dugujian@pku.edu.cn
Homepage: <http://dsec.pku.edu.cn/~jliu>

EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

M.Fin. in Finance (focused on Capital Markets)

Cambridge, MA
2015 – 2016

PEKING UNIVERSITY

Ph.D. in Computational Mathematics (focused on Scientific Computing and Stochastic PDE)

- Advisors: Professors Weinan E and Tiejun Li.
- Dissertation: Dynamic Methods for Detecting Community Structure in Complex Networks.

Beijing, China
2006 – 2011

JILIN UNIVERSITY

B.S. in Computational Mathematics

- Thesis: Numerical Methods for the Landau-Lifshitz Equation.

Changchun, China
2002 – 2006

EXPERIENCE

MIT SLOAN – NORGES BANK INVESTMENT MANAGEMENT (NBIM)

Joint Financial Proseminar in Capital Markets/Investment Management

Cambridge, MA
09/2015 – 12/2015

PICC PROPERTY AND CASUALTY COMPANY LIMITED (PICC P&C)

Associate in Capital Planning Division, Investment Management Department

Beijing, China
03/2013 – 06/2015

CHINA INTERNATIONAL CAPITAL CORPORATION LIMITED (CICC)

Analyst in Portfolio and Quantitative Strategy Group, Research Department

Intern in Portfolio and Quantitative Strategy Group, Research Department

Beijing, China
07/2011 – 02/2013
06/2010 – 08/2010

UBS INVESTMENT BANK

Intern in Global Quantitative Modeling Group

Shanghai, China
04/2010 – 06/2010

PEKING UNIVERSITY

Teaching Assistant in School of Mathematical Sciences

Beijing, China
09/2007 – 01/2009

RESEARCH FIELDS

- Model reduction of complex networks.
- Chemical reaction kinetics.
- Numerical solution of SDEs.

HONORS AND AWARDS

- Excellent Graduate in 2011, PKU.
- Top10 Scholar of Graduates in 2011, PKU.
- Award for Academic Innovation in 2010, PKU.
- WorldQuant Scholarship in 2010, PKU.
- Award for Excellence in Learning in 2009, PKU.
- Tencent Scholarship in 2009, PKU.
- Award for Excellence in Learning in 2007, PKU.

- Excellent Graduate in 2006, JLU.
- Top10 Undergraduates in 2005, JLU.
- First Prize of Higher Education Press Cup China Undergraduate Mathematical Contest in Modeling in 2005.
- First Prize of Undergraduate Mathematical Contest in Modeling in 2005, JLU.
- Hewlett-Packard Scholarship in 2005, JLU.
- China National Petroleum Scholarship in 2004, JLU.
- First Prize Scholarship and Award of Outstanding Undergraduates in 3 consecutive years for 2003-2005, JLU.
- First Prize of Chinese Mathematical Olympiad in Senior in 2001.

RESEARCH PROJECTS

- **Multi-objective Portfolio Optimization in Fuzzy Stochastic Environment** 2011 – 2013
Major Participant in Natural Science Foundation of China (Grant 71001003)
- **Model Reduction of Complex Networks** 2009 – 2011
Major Participant in Natural Science Foundation of China (Grant 10871010)
- **Investigation of Career Development Space for Science and Technology Workers** 2007 – 2008
Major Participant in Key Project of China Association for Science and Technology (Grant 2007DCYJ05)

PUBLICATIONS

REFEREED JOURNALS

1. **Jian Liu** and Tiejun Li, A validity index approach for network partitions, *Physica A: Statistical Mechanics and its Applications*, **390** (2011), 3579-3591.
2. **Jian Liu** and Tingzhan Liu, Coarse-grained diffusion distance for community structure detection in complex networks, *Journal of Statistical Mechanics: Theory and Experiment*, (2010), P12030.
3. **Jian Liu**, Fuzzy modularity and fuzzy community structure in networks, *The European Physical Journal B: Condensed Matter and Complex Systems*, **77** (2010), 547-557.
4. **Jian Liu** and Tingzhan Liu, Detecting community structure in complex networks using simulated annealing with *k*-means algorithms, *Physica A: Statistical Mechanics and its Applications*, **389** (2010), 2300-2309.
5. **Jian Liu**, Detecting the fuzzy clusters of complex networks, *Pattern Recognition*, **43** (2010), 1334-1345.
6. Tiejun Li, **Jian Liu** and Weinan E, Probabilistic framework for network partition, *Physical Review E*, **80** (2009), 026106.

CONFERENCE PROCEEDINGS

7. **Jian Liu**, Comparative analysis for *k*-means algorithms in network community detection, *Lecture Notes in Computer Science*, **6382** (2010), 158-169.
8. **Jian Liu**, Comparing fuzzy algorithms on overlapping communities in networks, *Lecture Notes in Computer Science*, **6377** (2010), 269-276.
9. **Jian Liu**, Fuzzy algorithm based on diffusion maps for network partition, *Lecture Notes in Artificial Intelligence*, **6216** (2010), 163-172.
10. **Jian Liu**, Finding and evaluating fuzzy clusters in networks, *Lecture Notes in Computer Science*, **6146** (2010), 17-26.
11. **Jian Liu**, An extended validity index for identifying community structure in networks, *Lecture Notes in Computer Science*, **6064** (2010), 258-267.
12. **Jian Liu** and Na Wang, Detecting community structure of complex networks by affinity propagation, *Proceedings of 2009 IEEE International Conference on Intelligent Computing and Intelligent Systems*, **4** (2009), 13-19.
13. **Jian Liu** and Na Wang, Detecting community structure of complex networks by simulated annealing with optimal prediction, *Proceedings of 2009 IEEE International Conference on Computational Intelligence and Software Engineering*, **2** (2009).