Junteng Jia

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Education

- **Cornell University** GPA: **4.10/4.30**
  *Ph.D. in **Computer Science**; Specialization: Network Science* *expected **May 2021***
  - Courses: *Structure of Information Networks, Advanced Machine Learning, Algorithm Analysis, etc.*
- **Cornell University** GPA: 4.00/4.30
  M.S. in Chemistry; Specialization: High Performance Computing *May 2017*
  - Courses: *Application of Parallel Computers, Matrix Computation, Mathematical Programming, etc.*
- **Nanjing University** GPA: 3.78/4.00
  B.S. in Chemistry; *Sept. 2015*

Research Projects

- **Neural Jump Stochastic Differential Equations** *Advisor: Prof. Austin R. Benson*
  - Introduce a family of neural networks that simultaneously models discrete and continuous dynamics behaviors
  - Achieve state-of-the-art performance for predicting marked temporal point processes
- **Edge-Flow Prediction in Flow Networks** *Advisor: Prof. Austin R. Benson*
  - Introduce a set of network signal processing tools for data defined on the edges of a network
  - Develop a semi-supervised learning algorithm for predicting edge flow with limited data
  - Propose two active learning algorithms for selecting edges to measure that greatly improves prediction accuracy
- **Core-Periphery Structure in Spatial Networks** *Advisor: Prof. Austin R. Benson*
  - Introduce a model to explain the emergence of core-periphery structure in spatial networks
  - Develop an efficient algorithm based on statistical principles to infer vertex *coreness*
  - Evaluated our vertex coreness measure in the context of supervised learning for traffic prediction
- **Improving Parallel Efficiency for Quantum ESPRESSO** *Advisor: Prof. Robert A. DiStasio*
  - Implement a load-balancing algorithm for massively-parallel hybrid density functional theory calculations
  - Reduce the CPU idle time using asynchronous MPI communication; achieve an overall 50% performance increase

Internship & Work Experience

- **Cornell University** *Teaching Assistant*
  CS 4220, Numerical Analysis *Spring 2019*
- **Argonne National Laboratory** *Research Intern*
  High Performance Computing *Summer 2016*
  - **Auger Decay Simulation**: Implemented a highly efficient parallel software for simulating Auger Decay process.
  - **Extreme-Scale Computing**: Selected into a highly competitive training program (ATPESC) on the key skills, approaches, and tools to design and implement applications on current and future supercomputers.

Selected Publications

- Random Spatial Network Models for Core-Periphery Structure (*WSDM* '19)
  Junteng Jia and Austin R. Benson.
- Graph-based Semi-Supervised & Active Learning for Edge Flows (*KDD* '19)
  Junteng Jia, Michael T. Schaub, Santiago Segarra and Austin R. Benson.
- Neural Jump Stochastic Differential Equations (*under review*)
  Junteng Jia and Austin R. Benson.

Skills

- **Languages**: Python, Julia, Java, C/C++, MATLAB **Technologies**: Git, HTML, MPI, OpenMP
- **Others**: Good software engineering principles · Good teamworker · Eagerness to learn · Strong problem-solving skills