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: *Advanced Machine Learning, Algorithm Analysis, structure of information networks, 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

- **Google Inc.** *Software Engineer Intern*
  Google Cloud Team *May 2019 – Current*
  - Built a machine learning pipeline to estimate the CPU and memory usages of content curation jobs, which enables the scheduler to improve both the stability and efficiency of content curation in data centers.
- **Cornell University** *Teaching Assistant*
  CS 4220, Numerical Analysis *Spring 2019*
- **Argonne National Laboratory** *Research Intern*
  High Performance Computing *Summer 2016*

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, MPI, OpenMP, PyTorch, TensorFlow
- **Others**: Good software engineering principles · Good teamworker · Eagerness to learn · Strong problem-solving skills