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, Machine Learning for Data Science, 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

- **High-Order Regulation in Flow Networks** *Advisor: Prof. Austin R. Benson*
  - Introduced a set of network signal processing tools for data defined on the edges of a network
  - Developed a semi-supervised learning algorithm for predicting edge flow with limited data
  - Evaluated our algorithm in the context of traffic flow prediction and exchange rate prediction
- **Core-Periphery Structure in Spatial Networks** *Advisor: Prof. Austin R. Benson*
  - Introduced a model to explain the emergence of core-periphery structure in spatial networks
  - Developed 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*
  - Implemented a load-balancing algorithm for massively-parallel hybrid density functional theory calculations
  - Reduced the CPU idle time using asynchronous MPI communication
  - Achieved an overall 50% performance increase
- **Atomic Simulation Environment** *Advisor: Prof. Robert A. DiStasio*
  - Implemented the QChem interface to Atomic Simulation Environment to automate molecular simulations
  - Computationally investigated the rotational flexibility of biorenewable polyesters with QChem

Internship & Work Experience

- **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.
- **Cornell University** *Teaching Assistant*
  CHEM 2070/3900 *Sept. 2015 — Apr. 2017*
  - **Responsibilities**: Managed student teams · Led discussion sections · Held recitation sections

Selected Publications

- Detecting core-periphery structure in spatial networks.
  Junteng Jia and Austin R. Benson.
  WSDM, 2019 (accepted).
- Unraveling substituent effects on the glass transition temperatures of biorenewable polyesters.
  Xiaopeng Yu[†], **Junteng Jia**[†], *et al.*
  Nat comm., 2018.

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