Junteng Jia

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Education

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

Research Projects

- **Outcome Correlation in Graph Neural Network Regression** *Advisor: Prof. Austin R. Benson*
  - Introduced *residual correlation* to graph neural networks that greatly improves its performance
  - Developed efficient stochastic inference algorithm for learning residual correlation
- **Neural Jump Stochastic Differential Equations** *Advisor: Prof. Austin R. Benson*
  - Introduced a family of neural networks that simultaneously models discrete and continuous dynamics behaviors
  - Achieved state-of-the-art performance for label prediction on temporal event sequence benchmarks
- **Edge-Flow Prediction in Flow Networks** *Advisor: Prof. Austin R. Benson*
  - Developed a semi-supervised learning algorithm for predicting edge flow on graphs
  - Proposed two active learning algorithms for "optimal sensor deployment" problem
- **Core-Periphery Structure in Spatial Networks** *Advisor: Prof. Austin R. Benson*
  - Introduced a vertex centrality measure that outperforms others(e.g. PageRank) on downstream data-mining tasks
  - Developed an efficient numerical approximation algorithm for computing the centrality measure
- **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; achieve an overall 50% performance increase

Internship & Work Experience

- **Facebook Inc.** *Machine Learning Engineer Intern*
  Messenger Ads Ranking *Summer 2020*
  - Developing an automatic question-answer system to facilitate business-to-customer communication.
- **Google Inc.** *Software Engineer Intern*
  Data Infrastructure & Analysis *Summer 2019*
  - Built a machine learning model for estimating computational resource usage of curation jobs. Our offline evaluation shows this model would significantly improve the efficiency of curation job scheduler upon deployment.

Selected Publications

- Outcome Correlation in Graph Neural Network Regression (*KDD* '20)
  Junteng Jia and Austin R. Benson.
- Neural Jump Stochastic Differential Equations (*NeurIPS* '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.

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