Jiale Chen

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EDUCATION

School of Electronics Engineering and Computer Science (EECS), Peking University, Beijing, China
Major in Computer Science and Technology Sep 2018 – Jun 2022(expected)
Turing Class - an elite class founded by Prof. John E. Hopcroft; 60 students selected
Major GPA: 3.94/4.0 Overall GPA: 3.90/4.0 (top 1%)
National School of Development (NSD), Peking University, Beijing, China
Double-major in Economics Sep 2020 – Jun 2022(expected)

SKILLS

Programming
C/C++, Python, LaTeX

RESEARCH INTERESTS

Theoretical computer science and especially the topics that lie in the intersection with Economics
Data structures and algorithm design

MANUSCRIPTS

CONFERENCES (UNDER REVIEW) MicroscopeSketch: Accurate Sliding Estimation Using Adaptive-Zooming
Zheng Zhong*, **Jiale Chen***, Shiqi Jiang, Yutong Hu, Tong Yang, Steve Uhlig
submitted to 27th SIGKDD Conference on Knowledge Discovery and Data Mining (***SIGKDD 2021***).
(*:Equal Contribution)

Equal Affection or Random Selection: the Quality of Subjective Feedback from a Group Perspective
Jiale Chen, Yuqing Kong, Yuxuan Lu
submitted to The Twenty-Second ACM Conference on Economics and Computation (***EC'21***).

RESEARCH EXPERIENCE (BY TOPIC)

Information elicitation
Group-level informativeness evaluation through reported chioces and predictions Oct 2020-Present
Advisor: Dr. Yuqing Kong Peking University

- Collaboratively developed a new metric called f-variety to evaluate the informativeness of a group of people in subjective questions, using self-reported choices and predictions of other people's choices.
- Showed that f-variety outperforms the baseline metric (the unbalance of choices) in two case studies.
- Responsible for designing survey questions and proposing the appropriate model of uninformative people.
- Contributed a first-authored paper that has been submitted to **EC'21.**

Data structures and algorithms design in network
An algorithmic framework for estimating data streams in sliding window models Mar 2020-Present
Advisor: Prof. Tong Yang Peking University

- Collaboratively developed an algorithmic framework, MicroscopeSketch, which can adapt fixed-window algorithms to sliding windows by using the two-dimensional quantization and adaptive zooming method.
- Responsible for constructing the first version of the algorithm, idea refinement and the entire experimental work.
- Performed extensive algorithm refinement, and showed that the developed algorithm outperforms the state-of-the-arts on three tasks in both accuracy and speed.
- Contributed a first-authored paper that has been submitted to **SIGKDD 2021.**

An algorithmic framework for tasks in hopping windows Mar 2020-Jun 2020
Advisor: Prof. Tong Yang Peking University

- Collaboratively developed a generic and near-optimal framework that can adapt fixed-window algorithms to time-based and count-based hopping windows for basic tasks, using hopping timestamps and local cleaning to clean outdated items.
- Responsible for the theoretical validation of the algorithm's additional error as a framework and completed a comprehensive mathematical proof of the error bound brought by hopping timestamps and local cleaning, respectively.
- Explained that our algorithm saves space at a small cost using my theoretical proof.
- Contributed a co-authored paper.

AWARDS & SCHOLARSHIPS

ICPC Regional Contest Gold Medal 2018, 2019
4 Gold Medals (rank 1, 1, 3, 8)
Pacemaker to Merit Student, Peking University 2019
Top 2.5% in Peking University, awarded to one student in each class
POSCO Scholarship for Asian Universities 2019,2020

Top 2.5% in Peking University, awarded to at most one student in each class

Merit Student, Peking University 2020

Top 5% in Peking University

May 4th Scholarship, Peking University 2020

Highest award possible for students, more selective than National Scholarship.

Top 0.5% in Peking University, Top 1/60 in Turing Class