Zhida PAN

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Research Interests: Algorithms & Complexity, Combinatorial Optimization, User Profile

Education

2015.09-2018.06	**Institute of Computing Technology, Chinese Academy of Sciences (ICT, CAS)**	**Master**	**Computer Science**
2011.09-2015.06	**Huazhong University of Science and Technology (HUST)**	**Bachelor**	**Computer Science (Top 1%)** **English (Second Major)**

Experience

2019.03-Now X-Order X-Order Lab Researcher

- Work on fundamental theories of combinatorial optimization, including approximation algorithms, computational complexity.

2018.07-2019.03 Tencent WeChat (WXG) Researcher

- Work at the team of WeChat "top stories". Mainly focus on the user profile and documents of elites. We integrate several rules and use features such as user behavior, vote of heavy users, hot news, tag matching, and so on. The unique visitors (UV) and page views (PV) was increased by 100% and 50%. The click through rate (CTR) was increased by 10%.

2017.06-2017.09 Tencent TEG R&D Intern

- Study on the object detection algorithms with application to advertisement recommendation, including RCNN, Fast RCNN, Faster RCNN and improvements beyond them. Achieve an improvement of mAP from 55% to 64%.

2016.10-2017.03 Baidu Portal Search R&D Intern

- Implement an API server that imports audio resources from Ximalaya and dumps them into Jason form.
- Implement statistic of URL click through rate (CTR), feature dumping of URL, query optimization.
- Develop a new method for query recommendation based on user-CF, which increases the Recall by 5%.

2014.07-2015.01 Dolphin Browser Browser's Team R&D Intern

- Develop a tool for bookmark synchronization, which involves the back-end technologies of Django framework.
- Develop a distributed real-time logs analyzing system, including Flume，Kafka，Storm，Hbase，Syslog-ng.
- Implement back-end operations for news services, including Xpath and mongoDB.

Skills

- Good English abilities, with an English minor Bachelor degree.
- Good at C and Python. Familiar with C++, shell, git, Linux, Latex.
- Familiar with widely used data structures and algorithms. Excellent mathematical skills.

Research

2019.05-2020.04 Target Location for Multi-commodity Flow（FOCS'20 under review）

- Motivate by scheduling in Geo-distributed data analysis, we propose a target location problem for multi-commodity flow. We obtained a series of NP-hardness and APX-hardness results, uncovering the inherent difficulty in solving this problem. We proposed an approximation algorithm for general undirected networks and an exact algorithm for undirected trees, which naturally induce efficient approximation algorithms on directed networks. We observe separations between directed networks and undirected ones, indicating that imposing direction on edges makes the problem strictly harder.

2016.08-2018.02 Impatient Online Matching (ISAAC'18)

- A research of online matching problems. Based on the Min-cost Perfect Matching with Delays (MPMD) model (by Emek et al.), we consider the MPMD problem with convex time costs. We show that all existing algorithms for MPMD are not competitive in our convex setting, and devise a novel deterministic algorithm whose competitive ratio is O(n). Besides, we show that no oblivious algorithms can solve it.

Activities & Awards

2016-2017 Secretary General of ICT Student Career Development Association.

2016 Star of Volunteer of Haidian District of Beijing.

2015-2016 Merit Student and Outstanding Student Leaders of University of Chinese Academy of Science.

2015 Outstanding Graduate of Huazhong University of Science of Technology.

2014 The Forth "Lanqiao Cup" National Software Competition, First Prize of Hubei Region, Third Prize of Final.

2013-2014 Excellent Student of Huazhong University of Science of Technology (top 1%).