Xiangdong Zeng

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EDUCATION

Southern University of Science and Technology (SUSTech) Shenzhen, China
Bachelor of Engineering, Computer Science & Technology, GPA:3.62/4.00 2015/09 - 2019/06
University of Birmingham Birmingham, United Kingdom
School of Computer Science, Visiting Research Student 2018/10 - 2018/11

- Advanced Coursework: Data Structure and Algorithm Analysis, Computer Organization Principle, Computer Networks, Parallel and Cloud Computing, Operating Systems

RESEARCH PROJECTS

Energy Attacks on Blockchain and Cloud Computing 2018/10 - 2018/11
Rami Bahsoon Laboratory, Instructed by Prof. Rami Bahsoon Birmingham, UK

- Conducted an investigation on Blockchain-related attacks through studying hundreds of research papers and real cases.
- Invented an energy attack on Blockchain, proposed several new feasible attack methods and their corresponding countermeasures.
- Drafted a literature review for Communications of the ACM.

Wi-Fi-based Indoor Positioning System 2018/02 - 2018/06
Georgios Theodoropoulos Laboratory, Instructed by Prof. Georgios Theodoropoulos Shenzhen, China

- Used RSSI-based routers to track the location of customers' mobile phones in a super-market.
- Inferred customers' behavior by analyzing the positioning information and offered suggestions on market planning.
- Established a database and memory cache for the project using MySQL, Redis and Python.

Parallel Interest Matching Algorithm 2017/10 - Present
Georgios Theodoropoulos Laboratory, Instructed by Prof. Georgios Theodoropoulos & Prof. Elvis Liu Shenzhen, China

- Implement the parallel interest matching algorithm on a GPU using CUDA.
- Redesign and conduct a 4-way GPU-based radix sort, achieving 5.62 times the efficiency compared to Nvidia's Thrust Library.
- Deploy the algorithm on GPU clusters with MPI to simulate performance in Distributed-Memory Systems.
- Observe significant performance improvement for the parallel algorithm; achieve 63 times the efficiency compared to serial execution. In preparation to be submitted to ACM Transactions on Modeling and Computer Simulation(TOMACS).

INTERNSHIP PROJECTS

Tencent Wechat Group(WXG) 2019/03 - Present
Back-End Developer Intern Shenzhen, China

- Develop and maintain a high-performance RPC framework--Svrkit, which supports over 1 billion Daily Active Users and 4 hundred million concurrent requests.
- Build the back-end of "Search bar" and "Top Stories" functions in Wechat and optimize the performance of fuzzy search when searching various type of contents (e.g. Mini Programs, Moments, Articles).

Morgan Stanley 2018/07 - 2018/09
Summer Tech Analyst Intern Shanghai, China

- Acquired a deep understanding on Enterprise Risk Management lifecycle, optimized the data processing logic and achieved 5 times improvement in performance.
- Participated frequently in global meetings to generate the mock up and rewrote a web interface project for risk management (Segregation of Duties Review) applied in Wealth Management and Institutional Securities Group.

China Telecom Corporation Limited 2017/07 - 2017/09
Database Intern Wuhan, China

- Monitored and maintained the database.
- Embedded SQL statements into Java code to query metadata related to machine frames and network cards.
- Identified erroneous data from the query output and came up with suggestions for fixing the error.

ACADEMIC PROJECTS

Bibliometric Network Visualization 2017/09 - 2018/01

- Developed a web application that constructs and visualizes the bibliometric network from academic publications.
- Employed Python crawler to collect data from academic website and SQLAlchemy to interact with the database.

Influence Maximization Algorithm for Social Network 2017/11

- Constructed a model that simulates the information propagation pattern of social network.
- Designed and implemented an algorithm that maximizes the rate of information propagation.
- Performed optimization that reduces the algorithm's time complexity by 3 times while maintaining 90% of the propagation rate.

EXTRA CURRICULAR ACTIVITIES

UNESCO Category II Institute-General Affairs Intern 2016/11 - 2017/07
Drama Club-Co-Founder & Vice President 2016/09 - 2017/09
Student Union of SUSTech-Student Representative 2015/11 - Present

SKILLS AND EXPERTISE

- Programming: Java, C, C++, CUDA, Python, JavaScript, Typescript, SQL, Linux Shell Script; Angular, Spring, Redis, SQLAlchemy, Front-end/Back-end Development
- Other: Skilled at academic writing, research and presentation