Cai, Yifan

fyc1007261@sjtu.edu.cn | (+86)138-5715-4817

EDUCATION

Shanghai Jiao Tong University   Shanghai
B.S. Software Engineering, System Software   Expected in Jun 2020
- Overall GPA: 3.76 / 4.3; Major GPA: 3.87 / 4.3
- Honors/Awards: SJTU Scholarships (2016-2017 & 2017-2018), Huawei Scholarships (2017-2018)

EXPERIENCE

Lab of System Control and Information Processing   Shanghai
Part-time Research Trainee   Sep 2017 – present
- Design a protocol in distributed network systems to do statistics cooperatively. It is the first protocol proposed to compute the probability density function in a fully distributed way.
- Responsible for algorithm design and optimization, numerical simulations and paper writing.

University of Michigan   MI, US
Research Assistant   Aug 2018 – Sep 2018
- Built an LSTM-based solar forecasting system on keras deep learning library.
- Completed the predicting model, and the error of which was approximately only 10%, smaller than all of those in published papers in some specific conditions.

PROJECTS

Tiger Language Compiler   Sep 2018 – Jan 2019
- Developed a compiler for *Tiger* language which can generate assembly code.
- The compiler follows x86-64 calling conventions. Optimizations such as liveness analysis and register allocations are realized.

Distributed File System   Sep 2018 – Jan 2019
- Developed a distributed file system which supports basic Linux interfaces (touch, move, write, unlink, etc.).
- The file system works under single server and multiple clients, where distributed locks with local cache are implemented to ensure the atomicity and the lock performance. Replication protocol is also designed and implemented in case of random failures.

Smart Electric Appliance Monitoring and Scheduling System   Jun 2018 – Jul 2018
- Collaborated with team members to build a smart electric appliance monitoring and scheduling system.
- Focused on the back-end Java development of the web application, as well as the integrated hardware controlling system written in Python, which collects information from all the sensors and operates the appliances.
- Managed to integrate a series of cross-process communications, including smart scheduling for appliances such as renewable energy simulating, deep learning based solar energy forecasting, and convenient human computer interactions.

B+ Tree Based Database   Jul 2017 – Aug 2017
- Developed a B-plus-tree-based database system with a cache system between disk and memory, which supports CRUD operations at a speed of a million operations per second when running with over a million sets of data.

PUBLICATIONS AND SKILLS

Publications:
- Consensus-based Data Statistics in Distributed Network Systems. Yifan Cai, Jianping He, Wenbin Yu, and Xinping Guan. In the 57th IEEE Conference on Decision and Control, Miami, USA, Dec 2018.

Languages: Chinese (Native); English (TOFEL 111).

Programming Languages: Python, C, C++, Java, JavaScript.