Binyao Jiang

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EDUCATION

University of Illinois at Urbana-Champaign, Champaign, IL **Aug 2019 - Dec 2020**
Master of Science in Computer Science GPA: 4.00/4.00

Shanghai Jiao Tong University, China **Sep 2015 - Jun 2019**
Bachelor of Science in Computer Science GPA: 3.85/4.00
Honors & Awards: Zhiyuan Honor Degree; National Scholarship; Academic Excellence Scholarship Type A. Rank: 4/142

SKILLS

Tools & Framework Linux, Samza, Kafka, Log4j2, Git, Docker, Hadoop, Storm, Android SDK.
Programming & Database C/C++, Java, Python, JavaScript (React, Node, Express, AJAX, jQuery), MySQL, Mongoose.

PROFESSIONAL EXPERIENCE

Software Engineer, Full-time Intern | Linkedin, US **May - Aug 2020**

- Developed a log4j2 appender inside Samza library to programmatically create output **Kafka** topic and convert all incoming user logs and framework logs to Avro schema compatible logs and write to Kafka.
- **THOUSANDS OF** Samza jobs inside Linkedin can migrate their Samza logs to Linkedin centralized logging platform for log aggregation, log search and log visualization with new log4j2 appender.
- Presented comprehensive migration and rollout plans for **ALL** different Samza users.

Research Software Engineer, Full-time Intern | Microsoft, China **Jul 2018 - Jan 2019**

- Developed a Linux FPGA driver with high throughput and low latency, with support of kernel bypass and interrupt coalescing.
- Achieved **state-of-the-art** 25Mpps network throughput with small batch size.
- Integrated into **RocksDB**, **Caffe** and FIO to offload high-load jobs to FPGA to save CPU resources.
- Up to **90% CPU resources** could be saved when training modern neural network with one NVIDIA P100 GPU.
- Published in **TOP-TIER** academic conference: ACM ICPP 2019.
- Won **Stars of Tomorrow** (Award of Excellence), Microsoft Research Asia.

Research Assistant, Part-time | Shanghai Jiao Tong University, China **May - Jul 2018**

- Developed the **FIRST** real-time QR code **batch** decoder: read 1-160 QR codes simultaneously with 95% accuracy in 100-400ms.
- Presented a lightweight IFFT based QR code detection algorithm to identify each code in a batch QR codes image.
- Boost detection speed by **1400%** by using parallel computing framework to fully parallelize the QR batch decoding.
- Published in **TOP-TIER** academic conference: IEEE INFOCOM 2019.
- Won **Best Mobile App Award** in top-tier academic conference: ACM MobiCom 2018.

Research Assistant, Part-time | Shanghai Jiao Tong University, China **Sep - Dec 2016**

- Built smart glasses for facial paralysis therapy to monitor the normal side of the face and stimulate the paralyzed side.
- Proposed an eye-blink detection algorithm based on neural network model written in **Caffe**.
- Designed stimulation circuits to generate electrical impulse to stimulate the paralyzed facial nerve branches.
- Published in **TOP-TIER** academic conference: ACM MobiSys 2017.

Teaching Assistant, Part-time | University of Illinois at Urbana-Champaign, Champaign, IL **Jan - May 2020**

- Developed **Docker** based autograder for **Hadoop** and **Storm** course projects.

Research Assistant, Part-time | University of Illinois at Urbana-Champaign, Champaign, IL **Jan - May 2020**

- Designed and built network-storage co-scheduling system to minimize the impact of network congestion and storage garbage collection in modern datacenter.

RELEVANT PROJECTS

RESTful and REACTive Web App | University of Illinois at Urbana-Champaign, Champaign, IL **Jan - May 2020**

- Created a **React** app containing list views, gallery views and detail views that allows users to query, view and filter different Pokemons by calling **RESTful** Pokemon API.
- Implemented DBMS RESTful API support based on **Node**, **Express** and **Mongoose**.

Keyword-Driven Summary Extraction | University of Illinois at Urbana-Champaign, Champaign, IL **Jan - May 2020**

- Developed a text mining system based on attention to extract summary sentences from corpus that matches users' given topics.
- Introduced document similarity score, redundancy score and coverage score to select matched, unique and informative sentences as multi-document summaries.

Distributed MapReduce System | University of Illinois at Urbana-Champaign, Champaign, IL **Aug - Dec 2019**

- Built a simple distributed MapReduce-like system from scratch using C++ with a naïve scheduler.
- Developed a gossip-style heartbeating protocol for membership maintenance and failure detection.
- Created a reliable simple distributed file system with replica control, data block support and file caching.