

Yuze CHI

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EDUCATION

??? PhD student in COMPUTER SCIENCE (expected)
SEPT. 2016 **University of California, Los Angeles**

JULY 2016 Bachelor's Degree in ELECTRONIC ENGINEERING (expected)
AUGUST 2012 **Tsinghua University, Beijing**

FALL 2014 Exchange Program at **The University of Texas at Austin**

JUNE 2012 **Middle School Attached to Northeast Normal University**
AUGUST 2009 **Changchun**

RESEARCH EXPERIENCE

Present | Research Assistant at NANOSCALE INTEGRATED CIRCUITS AND SYSTEMS LAB,
Dept. of Electronic Engineering, **Tsinghua University**, Beijing

DEC. 2014 *Efficient Large Graph Processing* | Advisor: Yu Wang

- Proposed a novel graph representation model and a graph processing scheduling mechanism.
- Developed a CPU single-machine solution for large graph processing, **NXgraph [1]**. It is one to two orders of magnitude faster than other state-of-the-art single-machine systems and 1.79 times faster than PowerGraph, a distributed system running on a 64-node cluster.
- Developed an FPGA solution for large graph processing, **FPGP [2]**, which is the first general-purpose solution for billion-scale graphs on FPGA.
- Developing a platform for user relationship inference with **NXgraph** framework, which aims to analyze population flow in Shanghai City.

SEPT. 2013 *Parallel Brain Network Analysis* | Advisor: Yu Wang

- Implemented **ParaBNA** platform on Linux, which is written in CUDA and aims at accelerating the frequently used but time-consuming algorithms in neuroscience research. Typical speedup over CPU versions is 30-50x.
- Wrote multicore versions of some **ParaBNA** functions so that people without an NVIDIA GPU could evaluate our platform.
- Studied methods to classify neuron images using persistent homology attributes with k-means and support vector machines.

SUMMER 2015 Summer Intern at COORDINATED SCIENCE LABORATORY,
University of Illinois, Urbana-Champaign
High-level Synthesis Loop Transformations | Advisor: Deming Chen

- Studied FPGA High-Level Synthesis SDC scheduling with LegUp and HLS compiler optimizations under polyhedral model with Polly and LLVM.
- Conducted experiments to study impact factors of performance when performing tiling and unrolling on pipelined loops.

PUBLICATIONS

[1]. Yuze Chi, Guohao Dai, Yu Wang, Guangyu Sun, Guoliang Li, Huangzhong Yang, "NXgraph: An Efficient Graph Processing System on a Single Machine", in IEEE INTERNATIONAL CONFERENCE ON DATA ENGINEERING, 2016, pp.409-420.

- [2]. Guohao Dai, **Yuze Chi**, Yu Wang, Huazhong Yang, “FPGP: Graph Processing Framework on FPGA”, in ACM INTERNATIONAL SYMPOSIUM ON FPGA, 2016, pp.105-110.
- [3]. Haixiao Du, Xuhong Liao, Mingrui Xia, Qixiang Lin, Gushu Li, **Yuze Chi**, Huazhong Yang, Yu Wang, Yong He, “Test-Retest Reliability of Graph Metrics in High-Resolution Functional Connectomics: A Resting-State Functional MRI Study”, in CNS NEUROSCIENCE & THERAPEUTICS, vol.21, No.10, 2015, pp.802-816.

SCHOLARSHIPS AND AWARDS

- OCT. 2015 Scholarship for Academic Excellence, **Tsinghua University**
- JUN. 2015 Fellowship for Summer Research, **Tsinghua University**
- DEC. 2014 Digital Image/Video Processing Ram’s Horn Best Project Award, **UT Austin**
- OCT. 2014 Scholarship for Academic Excellence, **Tsinghua University**
- OCT. 2013 Scholarship for Comprehensive Excellence, **Tsinghua University**
- OCT. 2012 Fellowship for Freshmen, **Tsinghua University**
- NOV. 2011 Gold Medal, **28th Chinese Physics Olympiad (CPhO)**

SKILLS

- EXPERIENCED WITH: C/C++, MATLAB, Python, Linux Shell
- PROFICIENT WITH: Ruby, PHP, Verilog, CUDA, \LaTeX , MIPS Assembly, HTML&CSS

INTERESTS

- vim, Arch Linux, OpenWrt and other geek stuff
- delicious food
- swimming, jogging

ACTIVITIES

- Present* TSINGHUA UNIVERSITY TUNA ASSOCIATION, **Tsinghua University**, Beijing
- MARCH. 2015 • *Member*
- Present* STUDENT NETWORK SERVICE, **Tsinghua University**, Beijing
- SEPT. 2015 • *Group Leader*, in charge of technology training
- MAR. 2014 • *Staff*
- Present* STUDENT ASSOCIATION OF SCIENCE AND TECHNOLOGY, Dept. of E.E., **Tsinghua University**, Beijing
- JUNE 2015 • *Vice President*
- JUNE 2014 • *Vice Minister of Software Ministry*, in charge of server maintenance
- JUNE 2013 • *Staff*, in charge of website development and maintenance
- JULY 2014 CLASS 23, Dept. of E.E., **Tsinghua University**, Beijing
- SEPT. 2013 • *Commissary in Charge of Study*