

ZHENBO SUN

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EDUCATION

Department of Computer Science and Technology, Tsinghua University

Aug. 2016 - Present

- B.E. in Computer Science
- Overall GPA: 3.85/4.0, Ranking: 8/158
- Core Courses: Linear Algebra (4.0) / Calculus A2 (4.0) / Probability and Statistics (4.0) / Operating System (4.0) / Data Structures (3.7) / Principles and Practice of Compiler Construction (4.0) / Storage Technology Foundations (4.0)

RESEARCH EXPERIENCE

Blockgraph: A Scalable Alternative To Blockchain

Goldstein Group | Carnegie Mellon University | Research Assistant

Jul. 2019 - Sept. 2019

Advisor: Seth Copen Goldstein, Associate Professor, Computer Science Department

- ▷ Designed parts of protocols for the Blockgraph, a system aimed to handle high throughput of transactions.
- ▷ Implemented the Blockgraph system based on Bitcoin Core and simulated mining process with docker.
- ▷ Conducted probability calculation while proving that the system maintains the same level of security as current Bitcoin system.

Sparse Tensor Computation using GPU

Pacman Group | Tsinghua University | Research Assistant

Mar. 2019 - Jun. 2019

Advisor: Wenguang Chen, Professor, Department of Computer Science and Technology

- ▷ Designed a framework for faster sparse tensor computation.
- ▷ Implemented segmented sort GPU algorithms and improved memory management of our system.
- ▷ Empirically compared our system with TACO (tensor compiler developed by MIT) and showed that we outperformed it by a factor of seven.

Knowledge-based Personalized Dialog Generation

Conversational AI Group | Tsinghua University | Research Assistant

Jan. 2018 - Jan. 2019

Advisor: Minlie Huang, Associate Professor, Department of Computer Science and Technology.

- ▷ Conducted research on generating responses using context and personal information about two dialogists.
- ▷ Designed a Knowledge Model which achieved a lower perplexity (about 1.0) than that of the baseline, using common sense collected from ConceptNet.
- ▷ Participated in ConvAI Competition held by NIPS, placing in the top eight performers.

COURSE PROJECTS

Computer Organization | Tsinghua University

Sept. 2018 - Jan. 2019

- ▷ Accomplished a project aimed at implementing a CPU on FPGA.
- ▷ Designed a pipelined CPU in VHDL.
- ▷ Wrote a file-manage program in assembly language and connected VGA and PS2 keyboard to it, yielding high performance.

Operation System Special Topic Training | Tsinghua University

Sept. 2019 - Nov. 2019

- ▷ Implemented the driver for VideoCore IV in rCore (an OS kernel developed with Rust) and ran rCore on Raspi3.
- ▷ Transplanted OpenGL ES1.1 for rCore.

SCHOLARSHIPS AND AWARDS

- ▷ Comprehensive Excellent Scholarship, Tsinghua University, Top 5% in CS Dept. 2017
- ▷ Academic Excellence Scholarship, Tsinghua University. 2018, 2019

LEADERSHIP AND ACTIVITIES

Table Tennis Team, Department of Computer Science and Technology — Team Leader

Sep. 2017 - Apr. 2018

- ▷ Made training plan and organized daily training.
- ▷ Led our team to achieve the result of top eight in Ma John Cup.

SKILLS AND INTERESTS

- ▷ **Programming Languages:** Proficient in C++/C, Python, Java, JavaScript.
- ▷ **Languages:** Mandarin (native), English (advanced).