

Chenggang Zhao

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Education

Aug 2017 **Tsinghua University**, Beijing, China.
– Present B.Eng. in Computer Science and Technology.
GPA: 3.55/4.0, **Rank:** 35/205 (~17%).

Publication

Oct 2019 **Student Cluster Competition 2018, Team Tsinghua University: Reproducing Performance of Multi-Physics Simulations of the Tsunamigenic 2004 Sumatra Megathrust Earthquake on the Intel Skylake Architecture**, *Parallel Computing* 36 (2019)
Jiaao He, **Chenggang Zhao**, Jiping Yu, Xinjian Yu, Liyan Zheng, Chenyao Lou, Shizhi Tang, Wentao Han, Jidong Zhai.

Experience

Jan 2020 **Innovative Data-centric Efficient Architecture Lab (IDEAL)**, Institute for Interdisciplinary Information Sciences (IIIS), Tsinghua University
– Present Advisor: Professor [Mingyu Gao](#).
Working on distributed deep learning framework memory optimization.

Jun 2020 **Deep Learning Platform and Tools Group**, SenseTime Inc..
– Present Optimized the global memory allocating algorithm of the deep learning platform SenseParrots from $O(\log n)$ to $O(1)$. Made a memory usage visualization tool for SenseParrots. Researched general memory saving techniques for deep learning IR.

Jan 2018 **Student Supercomputing Team**, Department of Computer Science and Technology, Tsinghua University
– May 2020 Advisor: Professor [Jidong Zhai](#).
Participated in multiple worldwide student cluster competitions as a core team member, winning 4 championship titles. Conducted parallel performance analysis and optimization on various software applications. Involved in cluster building and maintenance.

Selected Scholarships

Nov 2019 **Cai Xiong Scholarship for Science and Technology Innovation Excellence Award**, Tsinghua University.
Highest honor of science and technology innovation excellence award for undergraduates in Tsinghua. Only 10 persons in Tsinghua per year.

Nov 2019 **SenseTime Scholarship**, SenseTime Technology.
Only 30 persons in China per year.

Oct 2019 **Science and Technology Innovation Excellence Award**, Tsinghua University.

Oct 2018 **Science and Technology Innovation Excellence Award**, Tsinghua University.

Oct 2018 **Volunteer Excellence Award**, Tsinghua University.

Selected Awards

- Nov 2019 **SC19 Student Cluster Competition Overall Winner**, *ACM/IEEE*, Denver, USA.
Reproduced and analyzed the performance of computing normal modes with a polynomial filtering eigensolver.
- May 2019 **ASC19 Student Cluster Competition Silver Prize**, *ASC Committee*, Dalian, China.
Implemented and optimized the ECCV paper *Super-Identity Convolutional Neural Network for Face Hallucination*.
- Nov 2018 **SC18 Student Cluster Competition Overall Winner**, *ACM/IEEE*, Dallas, USA.
Reproduced and analyzed performance of Multi-Physics Simulations of the tsunamigenic 2004 Sumatra megathrust earthquake. Our work is published on *Parallel Computing*.
- Oct 2018 **First Prize in North China Area of China Parallel Application Challenge on Domestic CPU**, *CCF*, Wuxi National Supercomputing Center, China.
Ported and optimized GROMACS (GROningen Machine for Chemical Simulations) on Sunway TaihuLight.
- Sept 2018 **First Prize in Beijing Area of China Undergraduate Mathematical Contest in Modeling**, *CSIAM*, Beijing, China.
Analyzed and modeled the RGV (Rail Guided Vehicle) control system using reinforcement learning method.
- Dec 2017 **CCF Certified Software Professional Highest Score (Ranking 1/5947)**, *CCF*, Beijing, China.
- Jul 2016 **Silver Medal of National Olympiad in Informatics**, *CCF*, Sichuan, China.

Selected Course Projects

For more projects and related code, please refer to this [GitHub link](#).

- Jan 2020 **rCore-Tutorial**, Operating Systems.
– Present A tutorial for writing an OS in Rust, the book will be published next year.
- Sept 2019 **ThinRouter**, Computer Organizations & Computer Networks.
– Dec 2019 A SystemVerilog implementation of MIPS32 CPU, bus and RIP router.
- Sept 2018 **FEATURES**, Software Engineering.
– Dec 2018 A massive-multiplayer online web game with distributed deployment and load balance.

Skills

Programming Languages: C/C++, Python, Java, JavaScript, \LaTeX , Rust, Verilog, MATLAB
Environments and Frameworks: CUDA, MPI, PyTorch, Vivado, Intel® Parallel Studio
Ballroom Dancing: Waltz, Viennese Waltz, Quick Step, Fox Step, Tango, Rumba, Jive

Extracurricular Activities

- Oct 2019 **Volunteer for the 70th Anniversary Gala of the People's Republic of China**.
Volunteered for reception of domestic and foreign guests in the gala.
- Sept 2017 **Member of Ballroom Dancing Team**, Art Troupe of Tsinghua University.
– Present Participated in several university-level performances, winning titles in ballroom dancing competitions.
- Aug 2018 **Vice Minister of the Student Union**, Department of Computer Science and Technology,
– Dec 2019 Tsinghua University.
Participated in the organization of students' festivals (2018 and 2019). Director of the music video [InterNine](#).