BOHAN YANG

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EDUCATION

University of Science and Technology of China (USTC) — Sept. 2020 – Current
School of the Gifted Young (Honor School) — *Hefei, China*

- GPA: 4.07/4.30   Ranking: 1/34   CGPA: 93.19
- Bachelor of physical electronics
- Interested in **Computer Architecture** and **Digital Chip Design**
- Admitted by Yan Jici Talent Class (Honor Class)
- Class commissary in charge of studies
- English skills:
  TOEFL: 105 (R:30 L:26 S:23 W:26)   CET-4: 641   CET-6: 587

PUBLICATION

- **Adyna: Accelerating Dynamic Neural Networks with Adaptive Scheduling**   (the second author)
  [Micro 2023 Under Review, Advisor: Prof. Mingyu Gao]

HONOURS AND AWARDS

National Scholarship (Top 1%)	2021
First Prize of the 13th National College Students Mathematics Contest	2021
Yan Jici Talent Class Scholarship (Top 1%)	2022
Qiangwei Great Ambition Scholarship (Top 1%)	2022
Alumni (Class of 1987) Innovation Scholarship	2023
Qiangwei Dedication Scholarship	2023

RESEARCH EXPERIENCES

Research Intern — Oct. 2022 – Current
IIIS, Tsinghua University — *Advisor: Prof. Mingyu Gao*

- Explore dataflow optimization methods on the scalable spatial accelerator for dynamic neural networks
- Construct an HW-SW co-design platform cooperatively, from operator graph scheduler to chip-based dynamic tensor dispatcher and near-SRAM-router
- Build a cycle-accurate simulator based on gem5 and Simpy to implement and simulate our dataflow scheme ideas, evaluate the architecture, and perform relatively precise performance estimation

Intern — Jul. 2022 – Sept. 2022
Polar Bear Tech — *Advisor: Huanbing Shi*

- As a member of the compiling research group, I implemented AI operators like Conv and DT in C++ for the Qiming 940 AI chip (IR -> binary)
- Verify the functional correctness of operators by generating a large number of sampling cases
- Compose generation scripts and explore how to speed up the generation and reduce the occupation of disks (pruning the parameter space) while ensuring sample coverage rate

Research Intern — Apr. 2022 – Jun. 2022
School of Microelectronics, USTC — *Advisor: Prof. Yi Kang*

- Implement operators on the accelerator platform developed by the research group in C++

- Optimize specific AI applications like H.265 video encoding algorithms on this platform

PROJECTS

Digital chip design practice   Sept. 2022 – Feb. 2023
School of Microelectronics, USTC   *Advisor: Xuefei Bai*

- Design a SOC in TSMC 180nm process and explore the whole chain from front-end architecture design to back-end layout generation
- Implement three parts of the SOC: 8-bit MIPS CPU, systolic array accelerator, and SRAM controller
- Manage to quickly iterate the design and simulate the circuit to confirm the correctness of both timing and function using Synopsys and Cadence EDAs

Five-stage-pipelined RISC-V CPU design and SOC design   Apr. 2022 – Jun. 2022

- Manage to implement the design of a RISC-V SOC in Verilog RTL
- The SOC includes a classic five-stage-pipelined CPU, UART controller, GPIO (switch and LED light) controller, etc
- Write assembly codes and compile them to do some software tasks like serial port communication and LED light array show

TEACHING

Teaching Assistant   Sept. 2022 – Feb. 2023
USTC   *Lecturer: Xuefei Bai*

- Answer the questions from freshman students in the period of learning C language, prepare daily exercises and participate in experiment design
- Review the submitted homework and cooperate with the lecturer to complete the student assessment task

SKILLS

- C++ / C / Python / Assembly Language (X86 & RISCV) / Matlab / Gem5 / Verilog / FPGA development / Cadence & Synopsys EDATools / LaTeX / Markdown
- Interests: Go (10 years) / Football (6 years) / Guitar (8 years)
- Languages: Chinese–Mandarin (Native), English (Fluent)

EXTRACURRICULAR PRACTICES

Summer Course Outstanding Student (grade: 95 A+)   Peking University, 2022

The fifth team of the USTC Counter-Strike tactics competition (As Captain)   USTC, 2021

Team Final Four in USTC Angel Football Cup   USTC, 2020