Dedong Xie

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GitHub: github.com/ddxxdd-code

Education

University of Toronto — Toronto, ON, Canada
Honours Bachelor of Science — Sept. 2020–Jun. 2023 (expected)

- Majors in computer science and mathematics. Minor in statistics.
- Cumulative GPA (cGPA): 3.99/4.0
- 90 or above for all Computer Science courses
- 96 or above in all programming courses

University of New South Wales — Sydney, NSW, Australia
Completed 54 credits towards a bachelor's degree in Computer Science — Sept. 2019–Aug. 2020

- Weighted average marks (WAM): 92.33/100

Publication

[1] **D. Xie**, Z. Jia, Z. Zhang, and X. Jin. Optimizing half precision winograd convolution on arm many-core processors. In *Proceedings of the 13th ACM SIGOPS Asia-Pacific Workshop on Systems*, APSys '22, pages 53–60, Virtual Event, Singapore. Association for Computing Machinery, 2022. ISBN: 9781450394413. DOI: 10.1145/3546591.3547529.

Research Experience

Research Assistant — May 2022–Present
SysNet Lab. Department of Computer Science. University of Toronto.
Supervisor: Prof. Eyal de Lara

- Participated in the research on profiling and optimizing memory footprint of JVM JIT-compiler.
- Collaborated with IBM developers of OpenJ9 JVM.
- Developed tools to profile the memory usage by JVM JIT-compiler at run-time.
- Identified memory inefficiencies in the JVM; contributing the tools and filing issues for developers.
- Link to this project, video of my presentation, and slides of the presentation.

Research Intern — Jun. 2021–Jul. 2022
AI Lab. Amazon Web Services (AWS).
Supervisors: Dr. Zhen Jia (AWS) and Prof. Xin Jin (Peking University)

- Implemented n-dimensional Winograd algorithm for convolution on Amazon Graviton-2 ARM architecture chips.
- Optimized performance at assembly level.
- Developed in C++ with ARM NEON intrinsic and ARM assembly language.
- Practiced the process of software development in industrial settings and Amazon's leadership principles.
- Enhanced abilities in system programming and quantitative analysis of computer architecture.
- Acquired ability of academic reading and writing.
- Published a first-author paper in ACM Asia-Pacific Workshop on Systems (APSys 2022).
- Video and slides of my presentation on APSys 2022.

Scholarships and Awards

- **Dean's List Scholar** Jun. 2021, Jun. 2022
  - Faculty of Arts and Science, University of Toronto
- **Dr. James A. & Connie P. Dickson Scholarship In Science & Mathematics** Sept. 2022
  - "Given to the best students enrolled in science and mathematics programs."
  - University College, University of Toronto
- **Department of Computer Science Undergraduate Research Award** May 2022
  - Department of Computer Science, University of Toronto
- **Galois Awards in Mathematics** Oct. 2021
  - "Given to the best students enrolled in a mathematics specialist program."
  - University College, University of Toronto
- **The Faculty of Engineering Dean's Award** Feb. 2021
  - "For the best performance in year 1, 2 or 3."
  - University of New South Wales
- **COMP1511 (Programming Fundamentals) Hall of Fame** Sept. 2019
  - "A list of students who have achieved great distinction and honour by completing large amounts of extra work."
  - http://web.cse.unsw.edu.au/~cs1511/hall_of_fame/
  - COMP1511 Teaching Team, University of New South Wales

Skills

- **Programming languages:** C/C++, Python, Java, Racket, and Haskell.
- **Assembly programming:** MIPS, ARM Aarch64, Intel x86 instruction sets.
- **Database management systems:** Microsoft Access, MySQL.
- **Mathematical computation and data analysis:** R, Mathematica, MATLAB.

Languages

- **English:** proficient
  - **IELTS:** Overall 8.0 (Aug. 2019)
- **Chinese:** native speaker