

Pavel Golikov

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Profile

I have graduated from University of Toronto with a Masters degree in Computer Science with a previous undergraduate degree in Mathematics and Philosophy. I have developed excellent analytical skills and strong work ethics through my previous degree and work experience. I have experience working both individually and in team environments. I have a very inquisitive mind, like to be intellectually challenged and I greatly enjoy problem solving. For the past 3 years I greatly enjoyed working in Prof. Gennady Pekhimenko's EcoSystem research group at University of Toronto and Vector Institute. I conduct research in the field of Computer Science, specifically related to Computer Systems and Networks, Artificial Intelligence and Computer Architecture. I completed my Master of Science in Fall 2022 and am currently pursuing a PhD degree at University of Toronto under Gennady Pekhimenko.

Education

Bachelor of Science, University of Toronto

Fall 2004 - Summer 2011

- Major: Mathematics
- Major: Philosophy

Bachelor of Science, University of Toronto

Winter 2018 - Fall 2020

- Major: Computer Science

Master of Science, University of Toronto

Fall 2020 - Fall 2022

- Computer Science

PhD Student, University of Toronto

Fall 2022 - present

- Computer Science

Highlights

- Analytical
- Research Oriented
- Programming Skills: Assembly, C/C++, SQL, Java, Python
- Teaching/Tutoring
- Language: English, Russian and French
- Independent and Team Work
- Leadership skills
- Information Technology
- Communication (Oral and Written)

Research Experience

Graduate Student Researcher, EcoSystem Research Group, Vector Institute. *January 2019 - present*

- Conducting Computer Science research related to Computer Hardware and Computer Systems and Sensors
- Developing Internet of Things applications with physical sensors and microcontrollers (Arduino)
- Testing and verifying IoT applications with real sensors and on real human subjects
- Participating in various research projects in EcoSystem Research group and Vector Institute

Graduate Student Researcher, EcoSystem Research Group, Vector Institute. *January 2019 - September 2020*

- Conducting Computer Science research related to Computer Hardware and Computer Systems
- Developing, testing, and deploying job scheduling policies aimed at improving efficiency and utilisation of large scale research-oriented computing clusters
- Participating in various research projects in EcoSystem Research group and Vector Institute

Student Research Intern, EcoSystem Research Group *June 2019 - August 2019*

- Conduct Computer Science research in the fields of Artificial Intelligence, Computer Hardware and Statistical Analysis.
- Participated in a research project aimed at developing a novel method of estimating the training time of artificial neural networks based on exploiting the architecture of hardware accelerator (GPU) used and the structure of the neural network.
- Participated as a junior researcher in the writing of a research paper.

Publications

FASED: Fusing Adds and Shifts for Efficient Dot Products *Computer Architecture Letters*
Pavel Golikov, Karthik Ganesan, Gennady Pekhimenko, and Mark C. Jeffrey

GPUPool: A Holistic Approach to Fine-Grained GPU Sharing in the Cloud. *PACT'22*
Xiaodan Serina Tan, **Pavel Golikov**, Nandita Vijaykumar, Gennady Pekhimenko.

Habitat: Prediction-guided Hardware Selection for Deep Neural Network Training. *USENIX ATC'21*
Geoffrey Yu, YuBo Gao, **Pavel Golikov**, Gennady Pekhimenko.

Work Experience

Mathematics Teacher, Blyth Academy. *2010-2013 & February 2018 - April 2018*

- Instructed Mathematics-related Ontario Secondary School Curriculum courses at a high level (Functions, Calculus and Vectors, and Data Management)
- Employed engaging and innovative methods
- Instructed classes of up to 10 students and evaluated their work
- Created final exams and homework assignments

Intelligence Operator, Canadian Forces *August 2015 - December 2017*

- Conducted analysis of highly sensitive information
- Conduct analysis of large amounts of data
- Produced and delivered intelligence briefs at all classification levels

- Produced intelligence reports

Engineer Officer, Canadian Forces.

March 2013 to August 2015

- Commanded up to 30 subordinates in support of friendly units' mobility and denial of enemy units mobility during various training exercises
- Performed administrative duties for subordinates
- Prepared and participated in various training exercises

Assistant Expedition Leader, Quark Expeditions.

July 2006

- Attended to passenger's needs and requests on board of the icebreaker
- Supervised passengers during helicopter and zodiac landings
- Supervised equipment belonging to the expedition
- Helped organise lectures, music performances, outings and other public events

Extracurricular Activities

Self-Education

- I take various Computer Science related courses online (Coursera, MIT OpenCourseware) to supplement my University studies.

Interests

Science, research, technology, mathematics, philosophy, fitness, reading.