

Gavin (Yushi) Guan

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Education

Ph.D., University of Toronto Department of Computer Science	<i>September 2021 - Present</i>
Master of Engineering, University of Toronto Department of Electrical and Computer Engineering	<i>September 2018 – June 2021</i> <i>CGPA 3.97/4.0</i>
Bachelor of Applied Science, Major in Robotics, University of Toronto Program of Engineering Science	<i>September 2013 - June 2018</i> <i>Graduated with High Honours, CGPA 3.76/4.0</i>

TA Experiences

CSC108 Introduction to Computer Programming, Lecture TA

- Answering student's questions and leading discussion groups for students in lectures
- Office hours for assignment help; Exam marking

CSC401/2511 Natural Language Computing, TA

- Preparing assignment instructions and clarifications
- Assignment and exam marking

Work Experiences

Machine Learning Compiler Engineer , Tenstorrent, Toronto	<i>February 2021 – August 2021</i>
Deep Learning Acceleration Engineer , Intel, Toronto	<i>July 2018 – January 2021</i>
Graphics Card Test Automation Intern , AMD, Markham	<i>May 2016 - August 2017</i>

Research Experiences

Ph.D. Researcher

September 2021 - Present

Supervised by Prof. Nandita Vijaykumar, Department of CS, University of Toronto

- 3D Point Cloud Segmentation in Cylindrical Coordinate with Deep Neural Networks
- Training and Acceleration of Deep Spiking Neural Networks

Researcher

September 2020 – April 2021

Supervised by Prof. Roman Genov, Department of ECE, University of Toronto

- Interdisciplinary research project involving life science and computer science
- Generative Adversarial Network-based Synthetic Seizure Dataset Augmentation, *International IEEE/EMBS Conference on Neural Engineering* [\[link\]](#)

Engineering Science Undergraduate Thesis

September 2017 – April 2018

Supervised by Prof. Angela Schoellig, University of Toronto Institute for Aerospace Studies (UTIAS)

- Thesis Topic: Road Path Planning for Autonomous Vehicles with Improved Intersection Considerations

International Research Exchange

May 2015 - August 2015

Supervised by Dr. Peter Fox, University of Liverpool, United Kingdom

- Project: Automatic Reprogramming of Stratasys Chips for Filter Reloading

Extracurricular Activities

Member & Designer, UofT AutoDrive Team

August 2017 – December 2018

- Autonomous vehicle design, team achieved 1st place in North American AutoDrive Challenge
- Dedicated around 15 hours per week; participated in the design of different software components

Organizer, AMD Ultimate Frisbee *May 2017 – August 2017*

- Participated in AMD Ultimate Frisbee in the summer of 2016 and organized it in the summer of 2017 as a weekly event
- Promoted the event to interns at AMD, also invited interested full-time employees to join

Subcommittee Executive, Skule Badminton Club *September 2015 – April 2016*

- Supervised badminton court hours and arranged game schedule for members
- Organized mini-tournaments and quick-start coaching sessions
- Promoted club at club fairs, recruited over 300 members during the year as a club in total
- Participated in member tracking, badminton court reservation and equipment rental

First House Representative & Photographer, Innis College Yearbook *September 2013 - April 2014*

- Conducted surveys and documented student's ideas on yearbook design from First House residents
- Took photographs of resident events to be used as yearbook content

Mt Douglas Peer Tutors, Mt Douglas Secondary *September 2012 – June 2013*

- Provided peer tutoring for 1 hour a day in STEM subjects for the year
- Provided regular tutoring to 3 students and helped more than 10 students for walk-ins
- All 3 regularly tutored students saw significant grade improvement through the tutoring
- Discussed with fellow peer tutors on methods for teaching

Mt Douglas Leadership Program, Mt Douglas Secondary *January 2012 – June 2013*

- Fundraising for local committees through food donation, car washing, face painting events
- Weekly duty of selling lunch to students; School events set up and tear down

Hart House Ballroom Dance Class *January 2020 – March 2020*

Member, University of Toronto Taekwondo *September 2018 – April 2019*

Hart House Master's Swim Class *September 2014 – April 2015*

Competition and Awards

Winner, UTEK Senior Design

University of Toronto Engineering Competition (UTEK)

January 2016

- Achieved 1st place amongst 20 teams
- In a team of 4, designed an infrared remote-controlled robot car

3rd Place, AER201 Engineering Science Design Competition

January 2015 – April 2015

- Achieved 3rd place amongst 50 teams
- In a team of 3, designed an autonomous connect-4 play robot

International Research Exchange Fund, University of Toronto

May 2015

Entrance Scholarship, University of Toronto

September 2013
