

# Gavin (Yushi) Guan

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## Education

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

<b>Machine Learning Compiler Engineer</b> , Tenstorrent, Toronto	<i>February 2021 – August 2021</i>
<b>Deep Learning Acceleration Engineer</b> , Intel, Toronto	<i>July 2018 – January 2021</i>
<b>Graphics Card Test Automation Intern</b> , 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 Stratasy Chips for Filter Reloading

## Extracurricular Activities

### Member & Designer, UofT AutoDrive Team *August 2017 – December 2018*

- Autonomous vehicle design, team achieved 1<sup>st</sup> 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 1<sup>st</sup> place amongst 20 teams
  - In a team of 4, designed an infrared remote-controlled robot car
- 3<sup>rd</sup> Place, AER201 Engineering Science Design Competition** *January 2015 – April 2015*
- Achieved 3<sup>rd</sup> 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*