Bao Xin Chen

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Country of Citizenship: Canada

**EDUCATION**

York University, Toronto, ON

M.S. in Computer Science 2019

Focus on Robot Vision

**Computer Science & Engineering Outstanding Thesis award**

CGPA: 3.8 / 4.0

University of Toronto, Toronto, ON

B.S. Honors in Computer Science 2016

Focus on Artificial Intelligence (Machine Learning & Computer Vision)

**With High Distinction**

CGPA: 3.84 / 4.0

**AWARDS**

Computer Science & Engineering Outstanding Thesis award, York University **2020**

QEII-GSST, York University (CAD $15,000/yr, I rejected) **2018 & 2019**

Best Paper Finalist, ICVS 2017, Shenzhen, China **2017**

Best Robotics Paper, CRV 2017, Edmonton, Canada **2017**

Lassonde Graduate Entrance Scholarship, York University (CAD $8,000) **2016** **–** **2017**

Masters Domestic Funding, York University (CAD $41,666) **2016 – 2018**

Graduated with High Distinction, University of Toronto **2016**

Norma Brock award, University of Toronto, Woodsworth College (CAD $1,500/yr) **2014 & 2015**

Dean’s List, University of Toronto **2013 – 2016**

Ontario Principal’s Award **2012**

**EMPloyment**

NuPort Robotics, Toronto, ON

Chief Technology Officer (an Autonomous Driving Trucks startup) 2019 – Present

Department of Engineering and Computer Science, York University, Toronto, ON

Teaching Assistant 2016 – 2019

Department of Engineering and Computer Science, York University, Toronto, ON

Research Assistant 2016 – 2019

Supervisor: Professor John K. Tsotsos

Department of Computer Science, University of Toronto, Toronto, ON

Teaching Assistant 2015 – 2016

IBM, Toronto, ON

Software Developer 2014 – 2015

**TEACHING EXPERIENCE**

York University, Toronto, ON

Teaching Assistant – in “Web Programming” 2018-2019

(Undergraduate)

Met with students in weekly labs and prepared lab slides. As well as, graded written work.

York University, Toronto, ON

Teaching Assistant – to Professor Jarek Gryz in “Introduction to Database Management Systems” 2017-2018

(Undergraduate)

Provided office hours and graded programming projects.

York University, Toronto, ON

Teaching Assistant – to Professor Uyen Trang Nguyen in “Software Tools (C language)” 2017

(Undergraduate)

Met with students in weekly labs and graded written work.

University of Toronto, Toronto, ON

Teaching Assistant – in “Computer Organization (Verilog)” 2016

(Undergraduate)

Met with students in weekly labs and graded written work, including final exam papers.

University of Toronto, Toronto, ON

Teaching Assistant – to Professor Eric Hehner in “Formal Methods in Software Design” 2015

(Undergraduate and Graduate)

Met with students in weekly tutorials and graded written work.

**PUBLICATIONS AND PAPERS**

1. **Bao Xin Chen**

*"Real-time Online Human Tracking with a Stereo Camera for Person-Following Robots"*

Committee: Prof. John K. Tsostso, Prof. Michael Brown, and Prof. George Z.H. Zhu

Master’s thesis, 2019 (Computer Science & Engineering **Outstanding Thesis award**)

1. **Bao Xin Chen** and John K. Tsotsos

*"Fast Visual Object Tracking using Ellipse Fitting for Rotated Bounding Boxes"*

in International Conference on Computer Vision (ICCV) Workshop, IEEE, 2019.

1. Xing Zhao, Manos Papagelis, Aijun An, **Bao Xin Chen**, Junfeng Liu, and Yonggang Hu

*"Elastic Bulk Synchronous Parallel for Distributed Deep Learning"*

in 19th International Conference on Data Mining (ICDM), IEEE, 2019. (**Oral**)

1. Xing Zhao, Aijun An, Junfeng Liu, and **Bao Xin Chen**

*"Dynamic Stale Synchronous Parallel Distributed Training for Deep Learning"*

in 39th International Conference on Distributed Computing Systems (ICDCS), IEEE, 2019, pp. 1508-1517. (**Oral**)

1. **Bao Xin Chen**, [Raghavender Sahdev](http://www.raghavendersahdev.com/), Dekun Wu, Xing Zhao, [Manos Papagelis](https://www.eecs.yorku.ca/~papaggel/), and [John K. Tsotsos](http://www.cse.yorku.ca/~tsotsos)

*"Scene Classification in Indoor Environments for Robots using Word Embeddings"*

In International Conference on Robotics and Automation (ICRA) Workshop, IEEE, 2018.

1. [Raghavender Sahdev](http://www.raghavendersahdev.com/), **Bao Xin Chen**, and [John K. Tsotsos](http://www.cse.yorku.ca/~tsotsos)

*"Indoor Localization in Dynamic Human Environments using Visual Odometry and Global Pose Refinement"*

in Computer and Robot Vision (CRV), 2018 15th Conference on, IEEE, 2018, pp. 360-367.

1. **Bao Xin Chen\***, [Raghavender Sahdev](http://www.raghavendersahdev.com/)\*, and [John K. Tsotsos](http://www.cse.yorku.ca/~tsotsos)

*"*[*Integrating Stereo Vision with a CNN Tracker for a Person-Following Robot*](http://jtl.lassonde.yorku.ca/wp-content/uploads/2017/05/personfollowingrobotcnn_icvs2017.pdf)*"*

in 11th International Conference on Computer Vision Systems (ICVS), Springer, 2017, pp. 300-313. (**Oral) (Best Paper Finalist**)

1. **Bao Xin Chen\***, [Raghavender Sahdev](http://www.raghavendersahdev.com/)\*, and [John K. Tsotsos](http://www.cse.yorku.ca/~tsotsos)

*"*[*Person Following Robot Using Selected Online Ada-Boosting with Stereo Camera*](http://jtl.lassonde.yorku.ca/wp-content/uploads/2017/02/pfr_paper_crv2017.pdf)*"*

in Computer and Robot Vision (CRV), 2017 14th Conference on, IEEE, 2017, pp. 48-55. (**Oral) (Best Robotics Paper**)

\* denote as equal contribution

**Courses**

*Machine Learning:*

Machine Learning and Data Mining Undergrad 4th yr A+ Prof. Raquel Urtasun

Probabilistic Learning and Reasoning Undergrad 4th yr A+ Prof. Richard Zemel

Neural Networks and Machine Learning Undergrad 3rd yr A+ Mr. Michael Guerzhoy

*Computer Vision:*

Introduction to Visual Computing Undergrad 3rd yr A+ Mr. Michael Guerzhoy

Introduction to Image Understanding Undergrad 4th yr A+ (**Top 1**) Prof. Sanja Fidler

*Artificial Intelligence:*

Introduction to Artificial Intelligence Undergrad 3rd yr A Prof. Fahiem Bacchus

Embodied Intelligence Grad 2nd yr A Prof. John K. Tsotsos

*Robotic:*

Introduction to Robotics Grad 1st yr A+ Prof. Burton Ma

*Others:*

Data Analysis and Visualization Grad 2nd yr A Prof. Manos Papagelis

Formal Methods in Software Design Undergrad 4th yr A+ (**Top 1**) Prof. Eric Hehner

Introduction to Computer Networks Undergrad 3rd yr A+ Prof. Peter Marbach

Computer Networks Undergrad 4th yr A+ Prof. Yashar Ganjali

**Technical skills**

*Programming:* C, C++, Shell, Python, Java, JavaScript

*Machine Learning Tools:* Pytorch, Tensorflow

*Computer Vision Tools:* OpenCV

*Robotics:* ROS, Nvidia Drive AGX

*Data Analysis:* MATLAB

*The most frequent IED:* Notepad++ on Windows, Kate on Ubuntu