

Wenyuan Chen

CONTACT INFORMATION

Department of ECE
University of Toronto
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RESEARCH INTERESTS

Computer vision, robotics, automation, image processing and deep learning, structured light

EDUCATION

Graduate, University of Toronto

MASc. in Electrical & Computer Engineering (expected Sep 2020)

- Dissertation Topic: Highly reflective surface metrology with single-exposure images enhanced by convolutional neural network
- GPA:3.86

Undergraduate, Huazhong university of science and technology

BA. in Computer Science, Sep 2018

- Dissertation Topic: Development of deep-learning based glass surface defect detection system
- GPA:3.78
- TOEFL:110(l:29,s:24,w:27,r:30) (two years ago, may need to retake the test)
- GRE:323(V:155,Q:168)+4

PUBLICATIONS

X. Liu¹, **W. Chen**¹, H. Madhusudanan, J. Ge, C. Ru and Y. Sun, "Optical Measurement of Highly Reflective Surfaces from a Single Exposure," in IEEE Transactions on Industrial Informatics, doi: 10.1109/TII.2020.2991458. (co-first author and accepted)

H. Madhusudanan¹, X. Liu¹, **W. Chen**, D. Li, L. Du, J.Li, J.Ge and Y. Sun, "Automated Eye-In-Hand Robot-3D Scanner Calibration for Low Stitching Errors" in 2020 IEEE international conference on robotics and automation(ICRA). (second author)

TEACHING EXPERIENCE

Winter 2020 Teaching Assistant, Computer Fundamentals

GRADUATE COURSEWORK

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| <input type="checkbox"/> Foundations of Computer Vision | <input type="checkbox"/> Digital Image Processing and Applications |
| <input type="checkbox"/> Statistical Learning | <input type="checkbox"/> Introduction to Data Science |
| <input type="checkbox"/> Algorithms and Data Structures | |

SCIENTIFIC RESEARCH EXPERIENCE

2019–	Performed research for highly reflective surface metrology with single-exposure images enhanced by convolutional neural network. In this work, a new semantic segmentation neural network is designed for enhancing single low illuminated images to achieve measurement for highly reflective surface. This research was completed and a joint paper is currently being revised for future submission to a related journal.
2018–2019	Participated in the development of structure-light based 3D scanner system, and responsible for calibration, ellipse detection, point cloud reconstruction parts. This project was collaborated with the KIRCHHOFF automotive company and the scanner will be used in industrial plant.
2017–2018	Developing a deep-learning based glass surface defect detection system which first use morphology processing and connected domain analysis to locate the defect, and use the lightweight CNN, Glass-Net to classify the defects.
2017	Calibrated the two-laser system by programming to acquire data from the laser and built a 3D display scene based on OpenGL.

RELEVANT SKILLS

Programming Languages:	C, C++, Python, Matlab Script
Development Tools:	Matlab, Visual Studio, Jupyter Notebook
Deep-learning Tools:	Tensorflow, Caffe, Pytorch