Ming Xu

**Addr:** 100 N Main Street Unit 804, Providence, RI 02903. **Email:** [ming\_xu1@brown.edu](mailto:ming_xu1@brown.edu) **Tel:** (+1)401-215-4630

**EDUCATION**

* **Brown University Providence, RI, USA**

**-** Sc.M with Thesis in Computer Engineering Aug. 2018-May 2020

**-** Courses: C++ Scientific Programming, Machine Learning, Computer Vision, Computational Probability and Statistics, Artificial intelligence.

* **Harbin Institute of Technology Harbin, China**

- Master of Mechanical and Electrical Engineering, GPA: 3.8 Sept. 2011-June 2013

- Bachelor of Mechanical Engineering, GPA: 3.7  Sept. 2007-June 2011

**WORK EXPERIENCE**

* **2012 LAB Shenzhen, China**

Senior Automation Engineer July. 2013- May. 2018

**Project: *Development of the AFC Test Prototype Machine for Smart Phone Camera Module*** Aug. 2017-Mar. 2018

- Design and simulate the mechanical structure of the machine by solidworks

- Develop the software by C# and C++, controlling all the stages, sensors and communicating with the small phone

- Result: Provide huge amounts of experimental data automatically and efficiently. Improve the auto focus algorithm of smart phones by adding temperature influence.

**Project: *Development of Active Alignment Machine for Transmitter Optical Sub-assembly*** Dec. 2015-June. 2016

- Design and simulate the mechanical structure of the machine by solidworks

- Develop the software by C# and C++, controlling all the stages, sensors and other devices to operate automatically

- Result: In the past, the cycle time(CT) was **over an hour**, and the first pass yield(FPY) was less than **80%**. By using our machines, the PFY is above **95%**, and the CT is reduced to less than **25 minutes**. Considering the great improvement of efficiency and yield, several millions was saved.

**Project: *Development of Manufacturing Analysis Software for Optics Factory*** Sep. 2016-June. 2017

**-** Develop the software communicating with the manufacturing execution system(MES) in json format by socket communication by C# and C++

**-** Implement analysis and visualization of huge amount of manufacturing data.

**RESEARCH EXPERIENCE HIGHLIGHTS**

* **School of Engineering, Brown University Providence, RI, USA**

**Research Project: *Low-level image processing***

- A computation of vision odometry via a geometric model. Involving smoothing and filter algorithm.

**Research Project: *GPU Algorithm Acceleration in Scientific Programming in C++***

- Accelerate algorithms solving differential equation by using C++ AMP

**Course Project: *Implement of an eye tracker***

-Using python and TensorFlow to implement an eye tracker

* **Department of Mechanical Engineering, Harbin Institute of Technology Harbin, China**

Research Assistant Aug. 2010 -June 2013

**Research Project: *Tribo-chemical Properties of Diamond-like Carbon Coatings during Sliding*** Aug. 2012-June 2013

- Simulated the liquid quenching process to model the amorphous carbon by molecular dynamics simulation.

- Theoretically calculate the tribo-chemical properties of Diamond-like Carbon and verify the result by simulation.

- Result: 3 SCI papers were published based on that project. Also, a golden thesis medal was award by the university.

**Research Project: *Development of Magnetic Memory Detectors for Oil Pipeline*** Sept. 2011-July 2012

- Design the mechnical structure of the machine by solidworks.

- Develop the software by C# to analyze magnetic signals to detect the potential defects of oil pipelines

- Result: The detector was accepted and bought by the China National Petroleum Corporation Daqing Branch.

**SKILLS**

- Computer Skills: C++, C#, AutoCAD, Solidworks, PRO/ENGINEER, Matlab, Ansys, Python, Linux, Jira