**Ming Xu**

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**OBJECTIVE**

Seeking full-time intern as a software engineer starting from May, 2019

**EDUCATION**

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

**-** Master of Computer Engineering, GPA: 3.7/4.0 Aug. 2018-May 2020

**-** Courses: C++ Scientific Programming, Machine Learning, Computer Vision, Modern Web Application, AI.

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

- Bachelor and Master of Mechanical and Electrical Engineering, GPA: 3.8/4.0 Sep. 2007-June 2013

**WORK EXPERIENCE**

* **2012 LAB, Huawei Technology Shenzhen, China**

Senior Automation Engineer

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

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

- Design an **miron-meter-accuracy** image process system based on **C++** and **Halcon** to detect laser chip and implement the automatic active controll algorithm

- **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 Manufacturing Analysis Software for Optics Factory*** Sep. 2016-June. 2017

**-** Build the software tool 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.

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

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

- Enhance the usability of the machine by providing script programming and parameter configuration function

- **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.

**SELECTED PROJECTS**

**Project: *A Ball Tracker***

- Design a real-time baseball tracker under **C++**, **Qt** and **OpenCV**

- Accelerate the algorithm by using **OpenMP** to utilize concurrency and multiple thread computation.

- For further upgrade, develop a sophisticated template matching and optical flow detection algorithm to match objects with different size, shape and features

**Project: *Image Stitching Tool***

- Design and optimize feature detection algorithm and feature matching algorithm

- Stitch images together and improve the image quality by using blending technique

- Automatically detect suitable features such as SIFT, SURF and Harris, to achieve better match result

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

- Reconstruct a geometric model by computing the vision odometry, utilizing optimized smoothing and filter algorithms to get better image quality

- Design a boundary and centerline detector under **Maltab** based on **Dijkstra** Algorithm

**SKILLS**

*C++, C#, Python, Matlab***,** *Halcon, Jira, Linux, Solidworks, AutoCAD, ProE*