**Ming Xu**

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**OBJECTIVE**

Seeking full-time SDE position starting from July, 2020

**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**

* **Alexa, Amazon Device Seattle, US**

**SDE Intern**  Jun. 2019- Sep. 2019

**Intern Project: *Local Execution of Simple Routines*** Sep. 2016-June. 2017

- Optimize the whole architecture of the service to execute Alexa routines

- Identify simple and complex routines and select suitable dispatcher for different routines

- Use AWS Step Function and AWS Lambda to manage the complex workflow of complex routines

- Use local service provider to execute simple routines directly

- **Result:** Save over 4000 dollars on AWS services per month. Improve the overall latency of executing a simple routine by over 300ms.

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

**Software Development Engineer**  Sep. 2016- May. 2018

**Senior Automation Engineer**  July. 2013- Sep. 2016

**Project: *Development of Manufacturing Analysis Software for Optics Factory*** Sep. 2017-June. 2018

**-** 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: *Contour Generation based Conditional Generative Adversial Neural Network*** Feb. 2018- May. 2019

- Utilize a Conditional Generative Adversial Neural Network(C-GAN) to generate contour of a image

- Optimize the C-GAN to detect boudary of a image

**Project: *3D Simulator of Solar System*** Nov. 2018- Dec. 2018

- Implement a 3D object renderer with multiple functionalities supporting shadows, surface reconstruction and texture mapping under **QT** and **OpenGL**.

- Accelerate the computation of real-time dynamic parameters for all astronomical objects by using **C++ AMP**

**Project: *Low-level image processing*** Sep. 2018- Nov. 2018

- Design a geometric model for computation of vision odometry involving smoothing and filtering algorithms

- Optimize low-level image processing method by applying dynamic programming and optimized filters using matlab

**SKILLS**

**Programming Language:** *C++, C#, Java, Python, Matlab*

**Front-end development:** *HTML5, CSS, JavaScript, react.js*

**Database:** *MySQL, Mongo DB, SQLite3*