# Chang Luo

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## Education

**University of Sheffield**, Sheffield, United Kingdom 2018 – 2019

*Master student* in MSc Advanced computer science

**Beijing University of Posts and Telecommunications**, Beijing, China 2014 – 2018

*B.S.* in Information and Computing Science

## Experience

**Improving screen reading of code for people with visual impairments** May. 2019 – Sept. 2019

MSC Dissertation Project (JavaScript)

A software called Monaco Speech Editor was designed to improve the ability of people with visual impairments to better understand written code. It provides synthetic speech of specific line of code. Also, it allows users to select different modes to customized the content of speech. These modes include character mode, code mode, music mode, overview mode. Besides, blind people can use this application with the help of a special user interface called spotlight.

**Team software project** Mar. 2019 – May. 2019

Postgraduate Course (Python)

Our team developed a module delivery software within three months. The main functionality of this software is to validate and visualize the module information automatically. Specifically, the version control of this project is powered by GitLab. The user interface is built with PyQt5. NumPy and SeaBorn are used to validate and visualize module data. I made contributions to both front end and back end and wrote over 1000 lines of code.

**Train neural network with TensorFlow** Sept. 2018 – Nov. 2018

Assignment of Machine Learning (Python)

The object of this assignment is to help us get familiar with TensorFlow and scikit-learn. Specifically, MNIST dataset is used to train this neural network in this assignment. The main steps of the training process are as follow: 1. Use Principal Component Analysis to turn images into feature vectors 2. Classify these images with k-means clustering.

**Research on portfolio optimization problem based on ant colony optimization algorithm**

Dissertation Project (MATLAB) Apr. 2018 – May. 2018

It is an NP-Problem to calculate the efficient frontier of the Markowitz mean-variance model. Therefore, this paper try to find the approximate solution with a kind of ant colony algorithm which is applicable to solve continuous function with multiple variables. By adjusting the local and global optimization strategies, the approximate solution can quickly converge to the effective frontier curve with high precision. Finally, this paper scored 90 points.

## Honors and Awards

*3rd Prize*, University Scholarship 2015

*1st Prize*, School Mathematics Competition 2012

*1st Prize*, Calligraphy Competition of Sha county 2007

## Skills

- Programming Languages: Python == MATLAB > Java == JavaScript > SQL == Golang == C
- Softwares: SPSS, Excel, PowerPoint, LaTeX, Pd-extended, Access
- Blog: https://luochang212.github.io