Juntong Liu
Curriculum vitae

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PUBLIC PROJECTS

Just Enough Calculation

It is a Minecraft mod written in Java, started at 2014, targeted to help the players calculate resource consumption from the crafting system. A light-weighted GUI framework is implemented as part of development. The mod is released on CurseForge with source code available. It has received over 680k downloads.

Just Enough Characters

It is another Minecraft mod, started at 2016. This mod is developed for Chinese users to search for Chinese text using pinyin (ascii representation of characters). It uses some bytecode manipulation to inject the matching logic into existing code. The core part – the matching algorithm, provides implementation relatively close to Chinese input methods, but dedicated to Minecraft environment. It provides descent performance with a large variety of fuzzy options and support for both Quanpin and Phonetic spelling. The project has got over 27k downloads on CurseForge with source code available.

Plama

It is my final year project for bachelor's degree written in C++ using Qt. It is a data visualizing tool mainly to analyse the state of plasma. It renders different quantities as 3D models with descent performance. A plugin system in Python is implemented to help the user load data. For image rendering, it provides implementation in OpenGL, for on-screen rendering, and in Qt's painter system (using 2D rendering for 3D models) to provide compatibility with vector images. The source code is available on Github.

LANGUAGE SKILLS

ENGLISH	Proficient (IELTS 7.5)
CHINESE	Native

SCHOLARSHIPS

2015	Academic Excellence Scholarship
2016	XJTLU Scholarship

PROGRAMMING SKILLS

PREFFERED	Java
EXPERIENCED	LaTeX, Python, C++, C, Verilog
VERY BASIC	MATLAB, GLSL

EDUCATION

2018 – 19	**University of Edinburgh** Computer Science Master's degree Edinburgh, United Kingdom
2016 – 18	**University of Liverpool** Electrical engineering and Electronics Bachelor's degree (first) Liverpool, United Kingdom
2014 – 16	**Xi'an Jiaotong - Liverpool University** Electrical engineering and Electronics Bachelor's degree (first) Suzhou, China

PERSONAL STATEMENT

As a student with strong electrical engineering background, I learnt programming mainly for intrest. I have to admit that I might lack understanding in certain area (like front end), but I am enthusiastic in performance optimizations and experienced in development after maintaining the projects for years. I'm also leaning fast after transferring to computer science for master's degree.

For programming language, I use Java for most of the projects and I have no problem to hand write. For Python and C++, I used to be very familiar with some advanced features when developing Plama, but I cannot hand write now without any reference.

I can do machine learning if needed. I have implemented many layers (softmax, convolution (stridded, dilated), pooling) used in CNN using numpy for courseworks. I also have understanding of commonly used traditional machine learning models. However, I'm more intrested in implementations compared to theory.

I have been a Linux (currently Manjaro Gnome) user for years, so it is not a problem to work on Linux. However, I can only do very basic shell scripting.

For off-topic stuff, I'm experienced in production of multimedia contents, being familiar with Adobe CC and open source replacements like GIMP and Inkscape. I can also do embeeded systems and digital circuits (FGPA), which is my focus for undergraduate study.