

# Weilue Luo

☎ (+44) 07543295595 | ✉ luoweilue@gmail.com | 📺 Redcxx | 🌐 luoweilue.com | 🏠 weilueluo.com

## Education

### University College London

London, UK

COMPUTER SCIENCE - MSc COMPUTER GRAPHICS, VISION & IMAGING (CURRENT AVG. 90+%)

Sep. 2021 - Present

- Relevant Modules: Machine Learning for Visual Computing, Image Processing, Networked Systems, Machine Vision, Computer Graphics, Robot Vision and Navigation, and Virtual Environment.

### University of Manchester

Manchester, UK

COMPUTER SCIENCE - BSc ARTIFICIAL INTELLIGENCE (CLASS 1 DEGREE - AVG. 85+%)

Sep. 2019 - Sep. 2021

- Relevant Modules: Mathematics, Operating System, Algorithms and Complexity, Databases, Logic and Modelling, Software Engineering, Imperative Programming, Object-oriented Programming, Machine Learning and Optimization, AI and Games, Computer Vision, Graphics and Image Processing, Distributed Computing, Mobile System, and Cryptography.

### Bellerbys College

Brighton, UK

FOUNDATION - COMPUTING (1<sup>ST</sup> IN COHORT)

Jan. 2019 - Jun. 2019

- Relevant Modules: Decision & Pure Maths, Databases, Programming & Code, Web Design, and System Analysis.

## Experience

### Amazon - Alexa

London, UK

SOFTWARE DEVELOPER INTERNSHIP - JAVA AND PYTHON

Jun. 2021 - Sep. 2021

- Built and Embedded an experiment framework into existing QA pipeline for novel answering techniques while minimizing customer experiences deterioration. Conducted multiple experiments on targeted customers for over 50 countries. Led the initial experiments and presented a highly rated proof-of-concept report.
- Developed an efficient workflow for future experiments, reducing time-consuming experiment deployment from days to hours by coordinating and discussing design decisions with internal teams.
- Received return offer.

### Amazon - Item Safety

Edinburgh, UK

SOFTWARE DEVELOPER INTERNSHIP - JAVA AND PYTHON

Jun. 2020 - Sep. 2020

- Designed and developed multiple procedures to aggregate concise datasets from billions of records on a daily basis using Spark-based tools.
- Enhanced progress tracking, performance evaluation, long-term maintenance and UI experience by developing an effective and modern visualization dashboard using Elastic Search and Kibana.
- Replaced time-consuming ad-hoc graph analysis with checking the dashboard within seconds by re-designing and implementing an API package for automating creation of visualization components and dashboards.
- Received return offer.

### Collaborate Live

Manchester, UK

LEAD DEVELOPER - HTML/CSS, JAVASCRIPT, AND PYTHON

Jan. 2019 - Mar. 2019

- Directed a team of 7 students to build a web application for code-based interview. Designed and implemented all core functionalities includes real-time chatting, coding, drawing with collaborators, supports online code compilation and web-embed terminal.
- Awarded 1<sup>st</sup> place in most appealing idea and highest technical quality prize out of 37 teams.

## Projects

### Personal Websites

London, UK

SOLE DEVELOPER - HTML/CSS, JAVASCRIPT, AND GLSL

Jun. 2020 - Present

- Written websites from scratch using various technologies such as reactJs, nextJs, threeJs, sass, postcss, and pugJs.
- Visits <https://luoweilue.com> (simple) or <https://weilueluo.com> (fancy).

### Machine Learning with Pytorch

London, UK

SOLE DEVELOPER - PYTHON

Nov. 2020 - Present

- **Workflow Enhancement** Implement a number of ML models to aid artists development process for an 2D animation company based in London (ongoing master project, not allowed to disclose).
- **Time Series Prediction** Generate Monophonic and Polyphonic piano music via various models & techniques, including LSTM, skip connection & attention. Report can be found at <https://github.com/Redcxx/Third-Year-Project-Report> and music samples can be found at <https://soundcloud.com/kallzvx/sets>.
- **Image Classification** Transfer learning based on a pre-trained resnet, over 90% accuracy with 10 classes of 1000 training samples.

## First Person Virtual Reality Game - Bouncing Ray

London, UK

LEAD DEVELOPER - C#

Mar. 2022 - Apr. 2022

- Lead a team of 4 to build a first person Virtual Reality game based on the ubiq framework (<https://github.com/UCL-VR/ubiq>). Project can be found at <https://github.com/HengyiWang/COMP0113-BouncingRay>.

## Local Nameserver

London, UK

SOLE DEVELOPER - PYTHON

Feb. 2022 - Mar. 2022

- Written a local nameserver that able to resolve any IPv4 address according to RFC 1034 and RFC 1035 specification. Project can be found at <https://github.com/Redcxx/local-nameserver>.

## Poisson Image Editing

London, UK

SOLE DEVELOPER - PYTHON

Dec. 2021 - Jan. 2022

- Implemented the Poisson Image Editing paper. Including techniques such as naive filling; import & mixing gradient; texture flattening, colour isolation & illumination. Project can be found at <https://github.com/Redcxx/poisson-image-editing>.

## Image Downloader

Manchester, UK

SOLE DEVELOPER - PYTHON

Jun. 2019 - Aug. 2019

- Designed and implemented an API supports automatic login, multi-threading downloading, various format parsing and filter images, along with a graphical user interface. See <https://github.com/Redcxx/Pikax>.

## Other

SOLE DEVELOPER

- More projects can be found at my github <https://github.com/Redcxx>.

## Skills

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**DevOps** Git, CR, AWS, Scrum, Docker.

**Web** NodeJs, React, threeJs, nextJs, SASS/SCSS, Spark, Hadoop.

**ML** Pytorch, Numpy, Matplotlib, Jupyter, Pandas.

**Machine** Java ≈ Python ≈ Javascript > GLSL = HTML/CSS.

**Human** Native Chinese and Cantonese speaker, decent in English, Japanese beginner.

**Other** Proficient with markdown, command-line, and latex. Familiar with unix environment Blender and Unity.