Weilue Luo

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Education

University College London   *London, UK*
COMPUTER SCIENCE - MSc COMPUTER GRAPHICS, VISION & IMAGING (CURRENT AVG. 90+%)   *Sep. 2021 - Present - Sep. 2022*
- Relevant Modules: Machine Learning for Visual Computing, Image Processing, Networked Systems, Machine Vision, Computer Graphics, Perception and Interface, Robot Vision and Navigation, and Virtual Environment.

University of Manchester   *Manchester, UK*
COMPUTER SCIENCE - BSc ARTIFIAL 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 (1ST IN COHORT)   *Jan. 2019 - Jun. 2019*
- Relevant Modules: Decision & Pure Maths, Databases, Programming & Code, Web Design, and System Analysis.

Experience

NoGhost   *London, UK*
MACHINE LEARNING ENGINEER - PYTHON   *Jun. 2022 - Present - Sep. 2022*
- Assigned as master project.
- Implemented a number of ML models to aid artists development process.

Amazon - Alexa   *Cambridge, UK*
SOFTWARE DEVELOPER INTERNSHIP - JAVA AND PYTHON   *Jun. 2021 - Sep. 2021*
- Built and Embedded an experiment framework into the existing QA pipeline for novel answering techniques while minimizing customer experience deterioration. Conducted multiple experiments on targeted customers from 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 daily 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 the 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 a code-based interview. Designed and implemented all core functionalities including real-time chatting, coding, and drawing with collaborators, supports online code compilation and web-embed terminal.
- Awarded 1st 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

SOLE DEVELOPER - PYTHON

London, UK

Nov. 2020 - Present

- **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.
- **Image Denosing** Built a Encoder-Decoder based network, result PSNR improved by 100%(15-30) compared to traditional Gaussian denosing technique.
- **Other** Familiar with linear/polynomial linear/logistic regression/classification; clustering algorithms like KMeans and Meanshift; SVM, kSVM, and wrote a simple network network from scratch.

First Person Virtual Reality Game - Bouncing Ray

LEAD DEVELOPER - C#

London, UK

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

SOLE DEVELOPER - PYTHON

London, UK

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

SOLE DEVELOPER - PYTHON

London, UK

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

SOLE DEVELOPER - PYTHON

Manchester, UK

Jun. 2019 - Aug. 2019

- Designed and implemented an API supports automatic login, multithreading 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

DevOps	Git, CR, AWS, Scrum, Docker, Github Actions.
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, latex, and various IDE like VSCode and Jetbrains'. Familiar with Unix environment, Blender and Unity.