

My research interests are situated at the intersection between creative AI (artificial intelligence), machine learning solutions for digital media, digital signal processing.

EDUCATION

University of the Arts London - Creative Computing Institute

MSc Computing and Creative Industry (Distinction)

London, UK

Sep. 2021 - Jan. 2023

Key Skills:

Practical experience delivering *machine learning solutions* for *creativity support tools*.
Practical experience designing, engineering, training and testing large scale model in *PyTorch*, *TensorFlow*.
Knowledge of state-of-the-art deep learning model such as *VGG*, *Res-Net*, *YAMNet*, *ShuffleNet*.
Practical experience in ML related framework such as *OpenCV*, *scikit-learn*, etc.

University of Liverpool

BSc (Hons) Computer Science (First Class)

Liverpool, UK

Sep. 2018 - July. 2021

Key Skills:

Solid knowledge of *data structures*, *object-oriented programming* and *software engineering principles*.
Practical experience in *C++*, *SQL*, *Javascript*, *Python*.
Knowledge of deep learning based algorithms such as *CNN*, *RNN*, *SVM*, etc.
Knowledge of 3D maths/geometry and practical experience in graphics and game engines such as *p5.js*, *Unity*.

EXPERIENCE

UAL Creative Computing Institute

Associate Lecturer (part time)

London, UK

June - Sep. 2022

Contributed to lecturing the summer-course on *C++* Bootcamp for incoming postgraduate students.

Beijing Founder Electronics Co. - UI/UX Department

Front-end Developer (internship)

Beijing, China

June - Sep. 2020

Responsible for developing web application with vanilla Javascript and modern frameworks (React.js and Vue.js)

Summer Research Fellowship - Xi'an Jiaotong-Liverpool University

Wearable Technology Research Assistant

Suzhou, China

May. 2018 - Jan. 2019

Developed a wearable electronic solution for posture correction and treatment.
Responsible for conducting *user-centred research*, building the textile prototype with *Arduino*.

PROJECTS

Real-time Interface for Human-AI Interaction in GAN Applications - Masters Thesis

Developed a novel generative deep learning framework for real-time image-to-image translation, aims to facilitate the human-AI co-creation. Supervised by Prof. Mick Grierson.

London, UK

May - Nov. 2022

Key Contribution:

Reviewing state-of-the-art generative models such as *StyleGAN*, *Diffusion Model*, *Transformers*.
Designing architecture for the deep neural network.
Using *CUDA toolkit* to develop optimised training solutions for GPU.
Deploying the clients-server communications via *Flask* and *SocketIO*.
Carrying out *qualitative HCI evaluation*.

Sending and Receiving Data using Audible Sound - Undergraduate Thesis

Developed a data-over-sound protocol for low power IoT systems in smart home applications. Supervised by Dr. Thomas Carroll.

Liverpool, UK

Oct. 2020 - May. 2021

Key Contribution:

- Designing the *digital signal processing* pipelines for *audio recognition*.
- Implementing the framework in Python backend.
- Packaging and documenting the library on PyPI.

A Loop-based Music Studio Application for iOS - Undergraduate Group Project

Developed a music-making playground for iOS utilising the AVFAudio framework in Swift.

Liverpool, UK

Jan - June. 2020

Key Contribution:

- Conducting UX research to carry out personas and usability testing.
- Developing real-time audio processing pipeline with the *Audio Engine API* in *Swift*.

[More projects / Portfolio >>](#)

AWARDS

World Finalists - RESHAPE 18 | SENSING MATERIALITIES

Entered the top 10 world finalists of [RESHAPE 18 product design category](#).

Barcelona, Spain

Oct. 2018

IT Category Winner - Summer Undergraduate Research Fellowship programme

Awarded the 1st prize for a research project on smart textiles.

Suzhou, China

Aug. 2018

SKILLS

Languages

Python (3 years' practical experience) - computer vision, generative models, DSP
C++ (2 years' practical experience and 3 month teaching experience)
Web Development (4 years' practical experience) - HTML, JS, CSS
iOS Development - Swift and Objective-C
LaTeX - for publications

Frameworks

ML Frameworks - PyTorch, TensorFlow, OpenCV, scikit-learn
Flask & Socket.IO - for real-time ML model deployment
Processing & P5.js

Music

DAWs - Ableton Live, Logic Pro, FL Studio
Music Composition and Production - [SoundCloud portfolio >>](#)

Other Creative Tools

Unity
Arduino
Cinema 4D & Octane Render - [portfolio >>](#)
Adobe Creative Suite - graphic design (portfolio on request)
Photography (self-taught) - camera skills (still and moving), lighting, and digital post-production (portfolio on request)