

# JING WU

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## EDUCATION

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### Imperial College London

10/2021-10/2022

*MSc. in Applied Machine Learning (Distinction)*

London, UK

- **GPA: 3.89/4, 73.44 [A] (UK System), Ranking: 5th**
- **Relevant Coursework:** Machine Learning, Deep Learning, Probability and Stochastic Processes, Artificial Intelligence, Digital Image Processing, Wavelet, Computer Vision, Pattern Recognition.
- **Laboratory in Applied Machine Learning:** Bi-Manual Controlled Differential Drive Robot.
- **Individual Project:** Image Segmentation for Lung Cancer: CNN Structure Comparison and Design.

### University of Electronic Science and Technology of China

09/2017-06/2021

*BEng. in Electronic Information Engineering*

Chengdu, China

- **Major GPA: 90.73/100, Overall GPA: 89.85/100, 3.97/4.0, Ranking: Top 6% (Honorable Class)**
- **Excellent Final Year Project of School of Information and Communication Engineering:**  
Rapidly learned a new research field and how to use technical commercial software packages, wrote Python code in anaconda environment, wrote the thesis, earned a mark of 91%.
- **Honors:**
  - The Outstanding Graduate Award of Sichuan Province. [**Provincial Level**]
  - Excellent Student Scholarship of UESTC (Thrice) [12/2020; 12/2019; 12/2018]
  - Team Best Award at Innovation and Entrepreneurship Competition held by iSpace Innovations Asia Pacific Pte.Ltd. (IIAP) [07/2019]

## RESEARCH INTERNSHIP

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### 3D Vision & NeRF @ Computer Vision and Geometric Learning Lab (CVGL)

05/2023-Present

Research Assistant | PI: Prof. Liu Peidong, Westlake University

Hangzhou, China

- Pytorch
- **My work:**
  - Working on NeRF

### Tracking & Scene Graph Generation @ Vision & Language Group (VLG)

09/2022-03/2023

Research Assistant | PI: Prof. Liu Jun, SUTD

Singapore

- Linux, HTML, CSS
- **My work:**
  - Dataset processing. (Including dataset toolkit development, data preprocessing and annotation, and management, statistics, visualization)
  - Website Construction
  - Paper Writing

## COURSEWORK PROJECT

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### Image Segmentation for Lung Cancer: CNN Structure Comparison and Design

03/2022-09/2022

Supervisor: Dr. Dai Wei, Professor of EEE, ICL

London, UK

- TensorFlow, Keras, Jupyter
- **Goal:** To perform tumor detection and segmentation on medical images (CT), improve model performance, and enhance human interpretability.
- **My work:**

- Conducted repos and comparisons of classical CNN structures (2D U-Net, Attention U-Net, MultiRes U-Net) in a lung nodule segmentation scenario.
- Explored the vision transformer in the medical imaging case.
- Proposed a novel network with an encoder-decoder structure, with the vision transformer as the encoder and the attention gate + CNN as the decoder.
- Experimented with various skip connections.

### **Bi-Manual Controlled Differential Drive Robot**

**10/2021-03/2022**

Supervisor: Dr. Adam Spiers, Dr. Krystian Mikolajczyk, Professor of EEE, ICL

London. UK

- Arduino, IMU sensor, Sci-kit Learn, Jupyter, Sequential data processing and training, Pygame, LSTM
- Built a piece of hardware with two IMUs to collect sequential gesture data and software, including a neural network and interface. The software includes two models: a baseline model using a button to control input and output (no interference, SVM) experiments in the first stage, and a real-time detection model without a button (with interference, LSTM).
- **My work:** Arduino and IMUs, interface (Pygame), data acquisition, baseline network (SVM) testing, 3D model design and printing.
- **Result Video** <https://www.youtube.com/watch?v=i4Up8qyWKu4>

### **Final Year Project: Probability Map Based Pedestrian Skin Detection**

**10/2020-06/2021**

Supervisor: Dr. Chang Shu, Professor of ICE, UESTC

Chengdu, China

- Python, OpenCV, TensorFlow, NumPy, Jupyter, Matplotlib
- Introduced a new algorithm to perform pedestrian skin detection based on a probability map.
- Used skeletal information detected by PAFs network and groundtruth to train images, standardize the skeleton, and compute the mean skeleton of the train images to obtain a probability skeleton. Then for every test image, inverse mapped the normalized probability skeleton and extended it. Multiplied with the skin result detected by the colour detection and filter with a threshold to get the result.

## **ACTIVITY**

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### **National University of Singapore Summer Exchange Program**

**Singapore, 07/2019**

- Took scientific innovation courses.
- Participated in iSpace Innovations Asia Pacific Pitching Competition
- Won the Team Best Award.

### **UESTC-MIT SUMMER Program**

**Boston, US. 07/2018-08/2018**

- Attended general lectures covering various fields.
- Took courses in education, scientific technology, and EE; attended various lectures, including “Global Issues.”

### **Sports Awards:**

- 1st Place, Women’s Doubles at “Chengdian Cup” Badminton Individual Race of UESTC. [05/2018]
- 4th Place, “Chengdian Cup” Badminton Team Race of UESTC. [05/2018]
- 2nd Place, mixed doubles at “Freshmen Cup” Badminton Individual Race of UESTC [10/2017]
- 3rd Place, Female Triathlon at 50th Track and Field Sports Meeting of UESTC [09/2017]
- 8th Place, Women’s 100m Race of the Sports Meeting of UESTC [09/2017]

## **LANGUAGE AND TECHNICAL SKILLS**

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- Language: Mandarin (Native), English (Fluent)
- IELTS: 7.5 (S:7, W:7, R:7.5, L:8), GRE: 151 + 170 (3.5)
- Competent in MATLAB, LaTeX, Git, HTML, CSS
- Python: Proficiency in PyTorch, OpenCV, Numpy, Jupyter, Matplotlib