

# ZHI YU

+44 7442 911414

✉ [EMAIL](#)

🐙 [github.com/ZhiYu-2002](https://github.com/ZhiYu-2002)

## EDUCATION

---

**University College London**

*M. Sc. in Advanced Biomedical Imaging*

**Sep. 2024 - Sep. 2025**

*Overall Course Score: -*

**Harbin Institute of Technology**

*B. E. in Bioengineering*

**Sep. 2020 - Jun. 2024**

*Overall GPA: 3.6/4.0*

- **Core Module:** Calculus; Java; C; Biostatistics; Linear Algebra; Biochemistry; Molecular Biology; Cell Biology; Organic Chemistry; Genetic Engineering; Cell Engineering; Immunology; Unit Operation; Biomedical Imaging Techniques;

## RESEARCH EXPERIENCE

---

**Deep Learning-Based Cine MRI Segmentation for Cardiac Function Assessment**

**Jan. 2025 - Present**

*Advisor:*

*Daniel Stuckey, Prof.*

- Segmentation of ED and ES area with Horos for assessing ventricular volumes from short-axis cardiac MR images.
- Implemented multiclass left ventricle segmentation using short-axis cardiac MRI registry with UNet3+.

**Laparoscopic Surgical Instruments Binary Segmentation**

**Sep. 2023 - Jan. 2024**

*Advisor:*

*Wenpeng Gao, Assoc. Prof.*

- Designed novel architecture based on U-Net with Transformer, tested on Endovis2017 dataset for surgical instruments binary segmentation, implemented ablation experiments to verify the efficiency of components.
- Segmented the sequenced images extracted from the video, approximately achieved surgical instrument tracking and outperformed existing schemes. - [Code Available](#)

**Phase Detection of Surgical Instruments**

**Jun. - Jul. 2022**

*Advisor:*

*Wenpeng Gao, Assoc. Prof.*

- Extracted images from Cholec80 videos and modified labels, generated random data to test feasibility, fine-tuned and trained AlexNet with acquired images.

## INTERNSHIPS

---

**PeRCeiVe Lab, University of Catania (Remote)**

**Jan. 2025 - Present**

*Advisor:*

*Concetto Spampinato, Prof.*

- Fine-tuned existing networks and compared performances on Kvasir and NCI-ISBI 2013 Dataset for saliency prediction.
- Generated saliency maps with the best performing network as prompts for segmentation with SAM 2
- Work will be submitted to MICCAI

## PUBLICATIONS

---

**Surface Deformation Tracking in Monocular Laparoscopic Video - [LINK](#)**

**2023**

- Z. Liu, W. Gao, J. Zhu, **Z. Yu** and Y. Fu

## TECHNICAL SKILLS

---

**Programming language:** Python, C++, C

**Libraries & Frameworks:** PyTorch, Qt, MySQL

## STANDARDIZED TEST

---

**IELTS:** Overall 7.0 (Listening 7.0, Reading 8.0, Writing 6.0, Speaking 6.0) (2023)

**GRE:** Quantitative 163, Verbal 151, AW 3.5 (2023)