

Mengyi Zhou

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EDUCATION

Imperial College London <i>Master of Research (MRes) in Medical Robotics and Image-Guided Intervention</i>	09/2023 - 09/2024
Beijing Normal University <i>Bachelor of Science (BSc) in Computer Science and Technology (GPA: 87.6/100)</i>	09/2019 - 06/2023

LANGUAGE

IELTS: 7.0 <i>(Listening: 7.5; Reading: 8.0; Writing: 6.0; Speaking: 6.0)</i>	04/2023
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ACADEMIC EXPERIENCES

Microscopic Visual Servoing for Robot-assisted Endomicroscopy Tissue Scanning <i>Supervisor: Dr. Stamatia Giannarou, Chi Xu</i>	02/2024 - Now
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- Evaluate the distance between the pCLE imaging probe and tissue surface to guide the longitudinal translation of the imaging probe with respect to the tissue surface.
- Use spatial and frequency domain information of pCLE images as the inputs.
- Extend single-image-based distance regression to video-based distance regression using temporal processing methods.
- Integrate models into a robotic platform consisting of the 6 DOF parallel robot.

Development of a Multi-sensing Optical Probe for Tumour Margin Mapping <i>Supervisor: Dr. Alex Thompson, Dr. Stamatia Giannarou</i>	10/2023 - 12/2023
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- Developed a system for simultaneous measurement of confocal endomicroscopy images and Raman spectra to allow rapid and accurate classification.
- Implemented classifiers of pCLE images for two different tumours based on VGG19 with 99.3% accuracy.
- Implemented a migration learning approach using the pretrained network to classify other samples.
- Combined the trained model with PCA-based Raman spectral classifiers for multi-class classification with 96.7% accuracy.

Classification of Eclipsing Binary Light Curves Based on Deep Learning <i>Supervisor: Dr. Xianchuan Yu</i>	12/2022 - 05/2023
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- Implemented classification of astronomical light curves using deep learning methods.
- Estimated non-equally spaced time series periods and smoothed the data using a periodogram method.
- Designed and implemented the LSTM-based deep neural network auto-encoder.
- Implemented unsupervised feature extraction of eclipsing binaries light curves and achieved classification task with an accuracy of about 90%.

AWARDS

Outstanding Undergraduate Graduation Thesis	2023
Mathematical Contest in Modeling (MCM) - Finalist (Top 2%)	2022
Scholarship for Competition Participation - First-Class	2022
Scholarship for Academic - Third-Class (twice)	2021 - 2022

EXTRACURRICULAR ACTIVITIES

“EnviroMoment” Environmental Education Innovation and Communication	2021 - 2022
Beijing Normal University Cycling Association - Vice President	2021 - 2022
Beijing Normal University Volunteer Teacher Team - Publicity Vice Director	2021

SKILLS

Programming: Python, C/C++, MATLAB, Java
Deep Learning Frameworks: PyTorch, TensorFlow
Modeling Softwares: Unreal Engine 4, Unity, Blender