YAO-KUAN WANG

CONTACT

Email:
yao-kuan.wang@uzleuven.be

TECHNICAL SKILLS

Operating system:
- Linux (HPC with Slurm/Torque)

Programming:
- C
- Python
- Bash
- IDL

Computer vision:
- 3D vision
- Segmentation
- 3D/2D Registration
- Explainable AI

Deep learning:
- Pytorch
- Pytorch Lightning
- Ray Tune

Simulation:
- Molecular dynamics

LANGUAGES

Mandarin: native speaker
English: good working knowledge

EXPERIENCES

June 2021 – Present

PhD Student
Medical Physics & Quality Assessment, Department of Imaging & Pathology, KU Leuven, Belgium

Supervisor: Hilde Bosmans, medical physicist in UZ Leuven

Projects covered:
- Explainable AI in breast cancer risk prediction with mammography
- Domain adaptation via CycleGAN
- Radiomics/ML reliability

October 2019 – February 2021

Research assistant & Project Manager
Coronary Artery Diseases Diagnosis Intelligent Enhancer (CADDIE), National Taiwan University, Taiwan

Supervisor:
- Cheng-Ying Chou, CIBIL Lab
- Weichung Wang, MeDA Lab
- Tzung-Dau Wang, cardiologist, National Taiwan University Hospital

Role as research assistant:
- Coronary artery centerline extraction in coronary computed tomography angiography (CCTA)
- 3D coronary lumen reconstruction from coronary angiography (CAG)
- 3D/2D CCTA-CAG Registration

Role as project manager
- Managing CADDIE projects including (1) stenosis and plaque detection (2) calcium score calculation (3) whole heart segmentation (4) CFD simulation for FFR, etc.
- Communicating with supervisors, cardiologists, radiologists, and collaborators from NVIDIA.

EDUCATION

2016-2018

MASTER OF SCIENCE IN PHYSICS
Department of Physics, National Central University
Jhongli, Taoyuan, Taiwan

2012-2016

BACHELOR OF SCIENCE IN JOINT SCIENCE PROGRAM (MAJOR IN PHYSICS)
College of Science, National Central University
Jhongli, Taoyuan, Taiwan

AWARDS

2023

Young Physicists Award (One in all oral presentations) in 38th Annual Symposium of the Belgian Hospital Physicists Association
Oral presentation: *Domain adaptation with CycleGAN in digital mammography: Application on pectoral muscle segmentation*

2017 and 2018

Honorable mention in poster competition (10% out of the total posters accepted) at the annual meeting of the Physical Society of Taiwan
Poster presentation: *Spiral-coil formation in self-propelled chain system*

SELECTED PUBLICATIONS

[1] The Mirai mammographic breast cancer risk prediction model uses calcifications as major risk factors, Radiology: Artificial Intelligence (2024), Under revision.

Prior to PhD:

[2] Comparison of Escherichia coli surface attachment methods for single-cell, in vivo microscopy, Scientific Reports (2019)

[3] Formation of spiral coils among self-propelled chains, Phys. Rev. E (2018)