Thuy Dao

+61432162572 | thanhthuy.dao@uq.edu.au ☐ | Github ☐ | https://iishiishii.github.io ☐

Education

The University of Queensland - PhD Brisbane, Australia
Apr 2022 – Recent Supervisor: Dr. Steffen Bollmann
Project: Securely optimize and translate deep learning models for 3D medical image to clinical settings.

Kyushu University - Bachelor of Engineering Fukuoka, Japan
Oct 2015 – Sept 2019 Supervisor: Prof. Guangqi Chen
Project: Directional feature analysis of slope failure using discontinuous deformation analysis method.

Projects

Neurodesk ☐ | *Docker, Bash, TypeScript, Javascript*
- Contributed to the development of Neurodesk.

Deepsyence ☐ | *TypeScript, JavaScript, React, Pytorch*
- Developed an application implementing a fine-tuned SAM to segment brain lesions in medical images fully on client-side.

Invited Talk

Neurodesk: Enabling Reproducible and Collaborative Neuroscience through Software Containers (Neuroinformatics Assembly 2024, Austin TX USA)

Awards

National Imaging Facility First Prize Student Poster	2024
CVPR Challenge: Segment Anything in Medical Images on Laptop Honorable Mention Award	2024
Conduct of research, reproducibility and open research practices award	2023
Japanese government MEXT Scholarship	2015 – 2019

Publications

[1] T. T. **Dao**, X. Ye, J. Scarsbrook, *et al.*, "Modality-specific strategies for medical image segmentation using lightweight SAM architectures," in *CVPR 2024: Segment Anything In Medical Images On Laptop*, URL ☐, 2024.

[2] A. I. Renton*, T. T. **Dao***, T. Johnstone, *et al.*, "Neurodesk: An accessible, flexible, and portable data analysis environment for reproducible neuroimaging," *Nature Methods*, Jan. 2024, URL ☐.

[3] T. T. **Dao**, C. Rorden, K. Eckstein, *et al.*, "Developing a secure, browser-based and interactive image segmentation system for medical images," International Society for Magnetic Resonance in Medicine ANZ Chapter, 2023.

[4] T. T. **Dao**, A. Renton, A. Narayanan, *et al.*, "Investigating the computational reproducibility of neurodesk," International Society for Magnetic Resonance in Medicine, 2023.

[5] A. Nikolaidis, M. Manchini, T. Auer, *et al.*, "Proceedings of the ohbm brainhack 2021," *Aperture Neuro*, Mar. 2023, URL ☐.

[6] G. Chen, M. Xia, T. T. **Dao**, *et al.*, "A possible mechanism of earthquake-induced landslides focusing on pulse-like ground motions," *Landslides*, vol. 18, no. 5, pp. 1641–1657, Jan. 2021, URL ☐.

Experience

Casual Academic Jul. 2024 – Recent
University of Queensland *Brisbane, Australia*
- Design Computing Studio 3 - Build (DECO3801)
- Software Engineering Studio: Design, Implement and Test (CSSE3200)

Casual Associate Data Analyst Jun. 2022 – Recent
Sustainability Office, University of Queensland *Brisbane, Australia*
- Lead initiatives to streamline data collection and data transformation processes, ensuring accuracy for decision-making.
- Developed new reporting solutions using PowerBi, Microsoft Automate and Excel to effectively inform sustainable management practices.

Part-time Research Assistant Oct. 2021 – Feb. 2022
University of Bochum *Bochum, Germany*
- Prepared data from AutoCAD for deep learning model to reconstruct digital twins of buildings.
- Built Docker image to deploy deep learning model.

Software Engineer Oct. 2020 – Aug. 2021
Trilogy Technologies Pte. Ltd *Singapore*
- Led the R&D team of 6 engineers, managed projects, and introduced Github to the team.
- Optimized signal processing algorithm and developed firmware for smart watch to measure vitals in nRF52 SDK.

- Developed a mobile application using Flask, Flutter, PostgreSQL to connect to smart watch through Bluetooth.
- Developed firmware for Bluetooth/LoRa gateway, and set up MQTT broker to stream the data from gateway.

Research Intern   Sep. 2018 – Sep. 2018
Nippon Koei Research and Development Center   *Ibaraki, Japan*
- Analysed and visualised data of area affected by landslide.
- Built the simulation of landslide slope using PFC 2D.

Academic Services

National Imaging Facility Annual Scientific Meeting 2024: Demonstrator for Neurodesk workshop
MRI Together 2024: Demonstrator for Tools of the trade - tutorials and essential open science software

Volunteer Activity

Women in Neuroscience: ⬈ Contribute to paper writing
Deepkapha AI Lab: Validated and optimized architecture for stateful NLP model to reduce social bias.

Certificates

AI for Medical Diagnosis • Fundamental Neuroscience for Neuroimaging • LPWAN - Making it work

Skills

Programming languages: Python, JavaScript, TypeScript, HTML/CSS, C++, Matlab, Dart, Bash
Frameworks: Pytorch, OpenCV, React, Flask, Django, ONNX
Developer Tools: Git, Docker, Github, Figma