

Shuchang Ye

+61 456639399 | shuchang.ye@sydney.edu.au

<https://shuchangye-bib.github.io> |  [ShuchangYe-bib](#)

Gender: Male | Born: 2000 | Location: Sydney, NSW - 2008, Australia

EDUCATION





- **The University of Sydney** Mar 2024 - Present
Doctor of Philosophy (Engineering) in Multimodal Learning Sydney, Australia
 - Honours and Awards: Full Government RTP Scholarship.
- **The University of Sydney** Mar 2020 - Jan 2024
Bachelor of Advanced Computing (Honours) Sydney, Australia
in Computer Science and Computational Data Science
 - GPA: 3.91/4.00 (top 1%), Honour First Class
 - Honours and Awards: Ian Jackson Memorial Prize for Computer Science, Dalyell Scholar, Dean List

SKILLS

- **Programming Languages:** Python, Java, C, C#, C++
- **Deep Learning Languages:** Pytorch, Tensorflow, Huggingface, JAX
- **Fundamental Deep Learning:** Representation Learning, Self-supervised Learning, Weakly-supervised Learning, Knowledge Distillation
- **Multimodal Learning:** Hallucination, Bias and Fairness, Catastrophic Forgetting, Alignment, Pre-training, Fine-tuning, Adaptation
- **Computer Vision and Pattern Recognition:** Object Detection, Semantic Segmentation, Image Classification, Image Generaiton, Visual Question Answering, Image Captioning, Masked Image Modeling, Face Recognition
- **Natural Language Processing:** Masked Language Modeling, Text Classification, Text Generation, Question Answering, Named Entity Recognition.
- **Web Development:** HTML, CSS, JavaScript, Django, Flask, SQL, NodeJS
- **Data Science:** R, RStudio, Jupyter Notebook, MatLab

PATENTS AND PUBLICATIONS

C=CONFERENCE, J=JOURNAL, P=PATENT, S=IN SUBMISSION, T=THESIS

- [S.1] Shuchang Ye, Mingyuan Meng, Mingjian Li, Dagan Feng, Usman Naseem, Jinman Kim. **Dynamic Traceback Learning for Medical Report Generation**. Manuscript submitted for review in *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV 2025)*. [ [arXiv](#)]
- [C.2] Shuchang Ye, Usman Naseem, Mingyuan Meng, Dagan Feng, Jinman Kim. **A Causal Approach to Mitigate Modality Preference Bias in Medical Visual Question Answering**. In *The 32nd ACM International Conference on Multimedia (ACM MM 2024) First International Workshop on Vision-Language Models for Biomedical Applications: VLM4Bio 2024*, ACM ISBN 979-8-4007-1207-4/24/10, DOI: 10.1145/3689096.3689459.
- [C.1] Shuchang Ye, Mingyuan Meng, Mingjian Li, Dagan Feng, Jinman Kim. **Enabling Text-free Inference in Language-guided Segmentation of Chest X-rays via Self-guidance**. In *The 27th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2024)*. [ [arXiv](#)] [ [Website](#)] [ [GitHub](#)]

EXPERIENCE

- **The University of Sydney** [] Jul 2022 - Dec 2022
Research Assistant Sydney, Australia
 - Research in Facial Recognition, which is available at [ [PDF](#)]
 - Keywords: Computer Vision, Object Detection, Convolutional neural network

PROJECTS

- **Brain Wave Intelligent Reader** Feb 2022 - Jun 2022
Tools: Python, R, Html, SQL, CSS, JavaScript, Spiker Box
 - Project Background: Utilizing a Spikerbox device, which is capable of recording brainwave activity, we can classify various eye movements such as leftward and rightward shifts, as well as blinks. The objective of this project is to develop an intelligent e-book that can autonomously turn pages and adjust line spacing in response to the reader's behavior. To train a real-time classifier, machine learning techniques are applied to pre-labeled datasets.
 - Key components: 1) Deep learning-based streaming brain wave long sequence predictor; 2) Development of intelligent book reader.