

2025 EECMS Summer Internship Application Form

Main Supervisor	Dr Qilin Li
Other supervisors (if applicable)	Associate Professor Sonny Pham Professor Tele Tan Professor Tom Gedeon
Project Title	Leveraging Fine-Tuned Vision-Language Models for Improved Explainability in X-Ray Report Generation
Student location(s) for the project	School of EECMS
Duration of project	Eight weeks
Project Description	<p>This project is an exploration into the potential of Vision Language Models (VLMs) to revolutionise the field of medical imaging, specifically in the generation of X-ray reports. VLMs have demonstrated their prowess across a range of vision tasks, bringing with them the added advantage of enhanced explainability. In contrast to the large-scale universal language models that demand substantial resources for operation, foundational VLMs are designed with a more compact architecture. This allows them to be fine-tuned with precision to cater to specific tasks, making them a more efficient and adaptable tool for a variety of applications. In this project, we will be harnessing the power of these cutting-edge VLMs to augment the process of X-ray report generation. We will be fine-tuning and benchmarking several state-of-the-art VLMs to determine their efficacy in this context. The MIMIC-CXR dataset, a well-regarded resource in the field, will serve as the foundation for our study. Our objective is to investigate the extent to which these advanced VLMs can enhance the quality and accuracy of generated X-ray reports. As a tangible outcome of this project, we anticipate the production of a conference paper that will detail our findings and contribute to the broader discourse on the application of VLMs in medical imaging.</p> <p>This project is a part of an ongoing collaboration between the EECMS and Fiona Stanley Hospital, reflecting our shared commitment to driving innovation in healthcare through the application of advanced AI technologies.</p>