2025 EECMS Summer Internship Application Form

Main Supervisor	Dr Qilin Li
Other supervisors (if applicable)	Associate Professor Sonny Pham
Project Title	Mitigating Attacks to Industrial Control System
Student location(s) for the project	School of EECMS
Duration of project	Eight weeks
Project Description	As we stride towards a Net-Zero future, many industrial and residential systems are becoming increasingly intelligent. This advancement in connectivity facilitates superior control of industrial plants, enabling optimal monitoring and management in Operational Technology (OT) systems. However, this progress is not without its challenges. Cyber attacks on these OT systems are on the rise, causing substantial damage, particularly to critical infrastructure such as energy utilities. While extensive research has been conducted on traditional IT systems, there is a knowledge gap in combating cyber attacks in OT systems. This project aims to bridge this gap by characterising and mitigating various types of cyber attacks on industrial control systems. Building on the work completed in previous semesters, which includes the development of attack scripts and a simulation test bed, this summer project has several key objectives. These include the collection of simulated data, performance analysis, the development of detection models, and making recommendations for future studies. We plan to simulate a smart grid and utilise advanced AI models to detect these attacks. The culmination of the internship is expected to result in a journal paper. This project represents a significant step forward in securing our smart, Net-Zero future.