Project 4_1 AI-based multimodal phenotyping to optimise yield and quality for protected cropping environment

PC Hub Theme (see list here)
Theme 4: Digital Agriculture and Machine Learning
Principal supervisor
Prof. Wei Xiang
Co-supervisor(s)
Dr. Ali Zia Dr. Rick Saric

AIM: Protected cropping facilities are well suited to large-scale data collection using different types of cameras, sensors, and control systems. A major knowledge gap is turning this multimodal data into simple, validated decisions that work across plant varieties, growth stages, illumination, and phenotyping setups. These data can be used to detect early stress, forecast yield and quality, and guide smarter use of water, energy, and other inputs. We are seeking a PhD candidate with a background in image processing/computer vision to develop AI-based methods that fuse imaging modalities, such as RGB, hyperspectral, fluorescence, and thermal imaging into clear, reliable insights for greenhouses and other protected-cropping systems.

Required techniques/tools:

- *Image processing*
- *Deep learning (e.g., CNNs/ViTs), time-series modelling*
- *Multimodal data*
- *Explainable AI*
- *Data analysis*
- *Visual analytics.*

***About you**:*

- *Strong Python and data analysis skills.*
- *Background in computer/data science,*
- *Fundamentals of image-based plant phenotyping,*
- *Clear communicator who can work independently,*
- *Bonus: experience with image analysis, IoT data, databases, or dashboarding.*

How to apply

The PC Hub offers a limited number of competitive scholarships.
To apply, please email the following documents to pchub@latrobe.edu.au by **15 February 2026:**

- Application form completed
- Up-to-date CV
- University transcripts

Only shortlisted applicants will be contacted.