

SUMMER RESEARCH 2024/25 PROJECT ABSTRACT



THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

PROJECT # 37

SUPERVISOR/S:	Dr Tim Walmsley
PROJECT TITLE:	Software research and development for industrial process optimisation using pinch analysis
FIELD:	Software Engineering
DIVISION/SCHOOL:	HECS - Te Kura Mata Ao School of Engineering
PROJECT LOCATION:	Hamilton

PROJECT ABSTRACT:

This project seeks to undertake software R&D to support the development of a comprehensive open-source tool that enables process engineers in industry to optimise the design of their process and heat recovery systems. The software builds from an existing Excel spreadsheet with macros with the goal of developing a fully functional, advanced web app version. The web app will use Typescript as the front-end language, supported by Python scripts combined with several standard libraries in the back-end. Results are collocated with process model structures inside of a postgresql database.

STUDENT SKILLS:

- Full-stack web development

PROJECT TASKS:

1. Software research and development

EXPECTED OUTCOMES:

- Student's Research Poster (as per clause 6 of the [Scholarship regulations](#))
- Open-source web app

