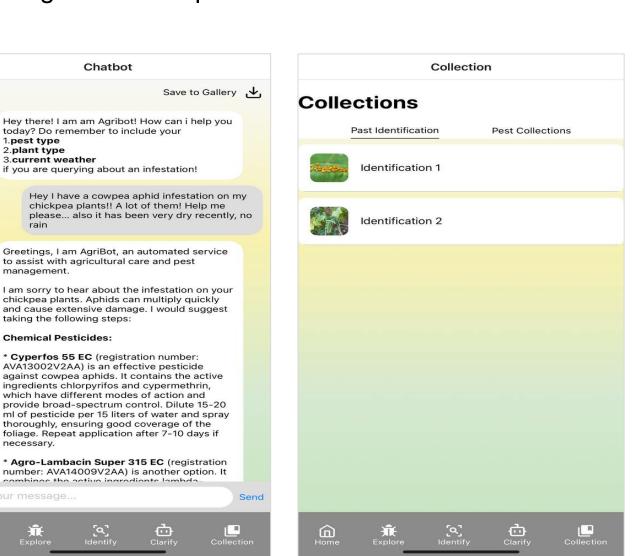
AgriPest Mobile Application

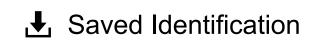
Agricultural Pests' recognition using deep learning and ChatGPT

Student: Su Myat Aung Supervisor: Dr Owen Noel Newton Fernando

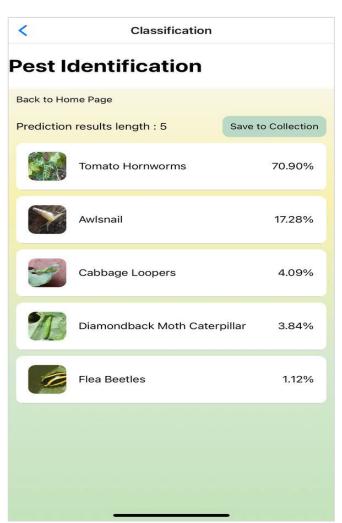
Project Objectives:

The objective of this project is to develop a mobile application to assist users in agricultural pest management. The application will employ a lightweight deep-learning solution, specifically a Convolutional Neural Network (CNN), trained to identify common agricultural pests in Singapore. Furthermore, a fine-tuned chatbot, based on the GPT-3.5 Large Language Model (LLM), is integrated to provide users with a personalised and context-specific feedback to target the pest of interest. This project aims to prioritise the accuracy of detecting the agricultural pests to ensure that users are provided with effective solutions and strategies to make informed decisions and safeguard their crops.





Key Features:





PesticideProduct

Active Ingredient ETOFENPROX + NEEM EXTRACTS

ETOGROWTH -T238

OKADA ECOTECH PTE LTD

ETOFENPROX + NEEM EXTRACTS

ETOFENPROX + NEEM EXTRACTS

Orchid/Ornamental Plants

OKADA ECOTECH PTE LTD

OKADA ECOTECH PTE LTD

Orchid/Ornamental Plants

8% W/V; 30% W/V

OIL-IN-WATER

AVA00002OAOK

ETOGROWTH -T233

3% W/V; 30% W/V

OII -IN-WATER

AVA00003OAOK

5% W/V; 30% W/V

OIL-IN-WATER

20/07/2000

ETOGROWTH -T235

20/07/2000

20/07/2000

Approve Pesticide with Neem

Trade / Brand Name

Date of Registration

Concentration

Formulation

Intended Use Mode of Action

Registration No.

Trade / Brand Name

Date of Registration

Active Ingredient

Concentration

Formulation

Intended Use

Mode of Action

Registration No. Trade / Brand Name

Active Ingredient

Date of Registration

Formulation

Company

Company

Q Pest Identification







- Creation of an Image Dataset comprising of Common Local Agricultural Pests
- Development and Fine-Tuning of a lightweight CNN model for Pest Image classification
- Utilisation of Prompt Engineering and Retrieval-Augmented Generation to refine the OpenAl GTP-3.5 turbo model
- Development of a Pesticide Database that offers locally approved products that are available in the market

