

Team Members and their roles



Smrithi Ganesh (Team Lead) MIO-WISE Subsystem
Gyanesh Amish Shah Robot Subsystem
Tanvir Hannan Image Processing
Charlotte Rundberget Pipe Subsystem

Company Liaisons: Jo Sunga, Joseph Su, Kevin Y. Chang, Andrew Chou

Faculty Advisor: Dr. Farzad Ahmadkhanlou

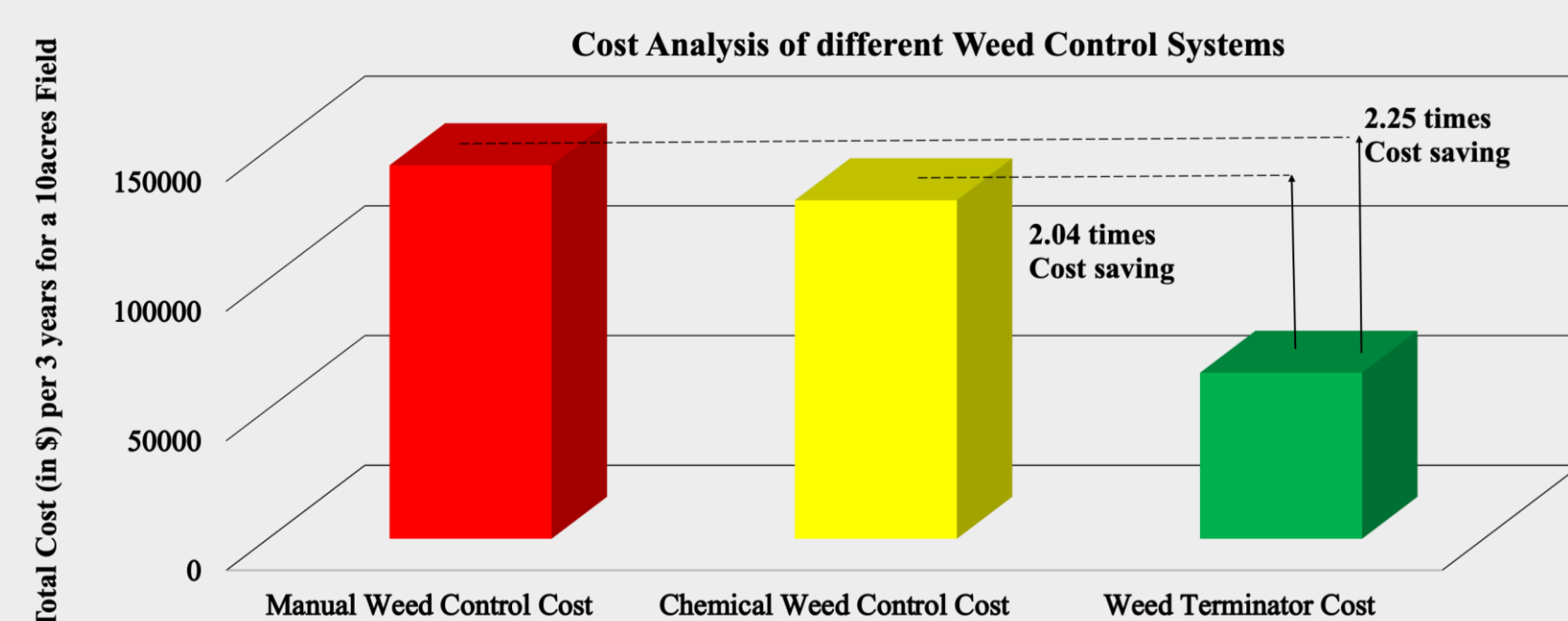
Motivation

- Our objective is to increase the yield rate of sunflower in the US.
- USA spent close to \$505.5 million in 2022 to meet their sunflower oil demands.
- Europe exports sunflower to the US leading to higher retail price of sunflower oil in the US

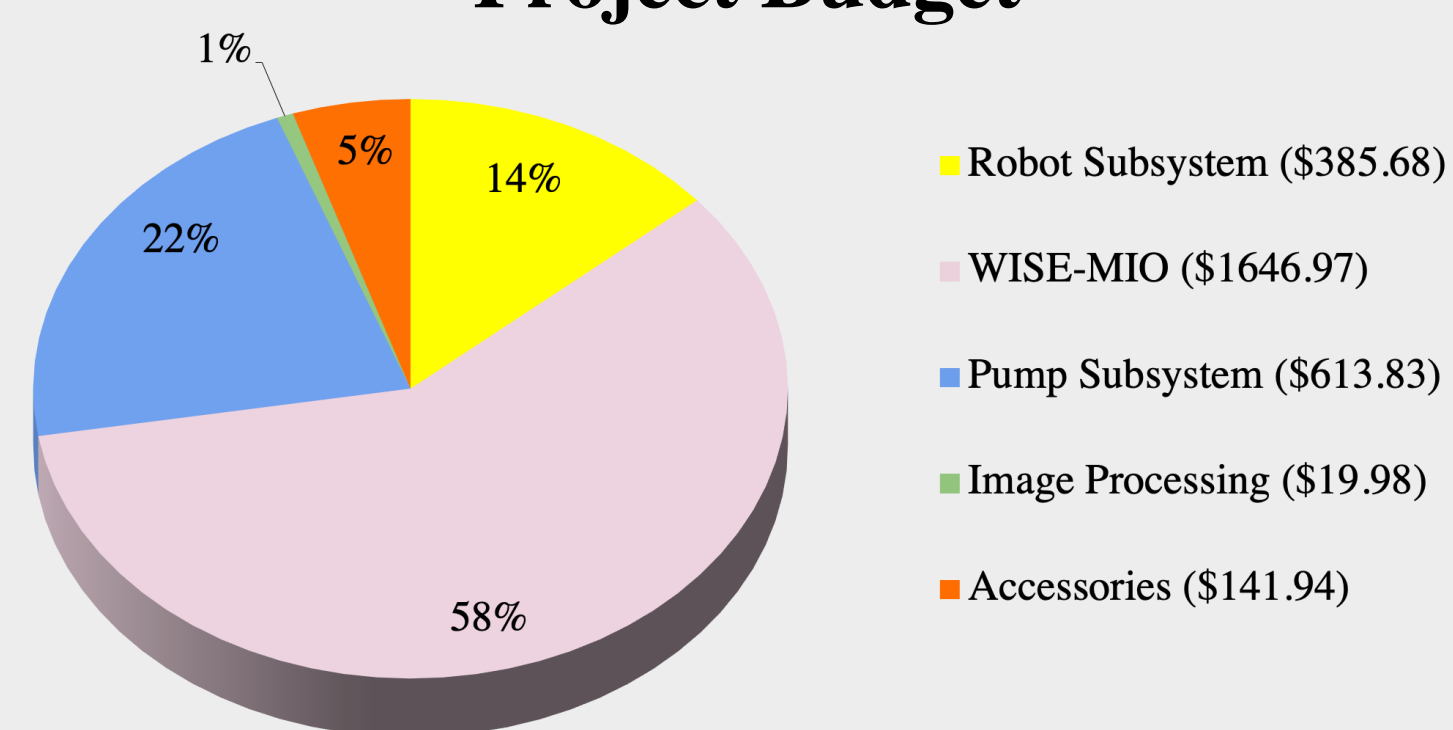
Goals

- Create a weed emergence prediction system.
- Create an automated and interactive weed management system.
- Reduce the loss of oil content in sunflower seeds due to weed infestation.
- Reduce the requirement of labor for weed treatment.

Cost Analysis



Project Budget

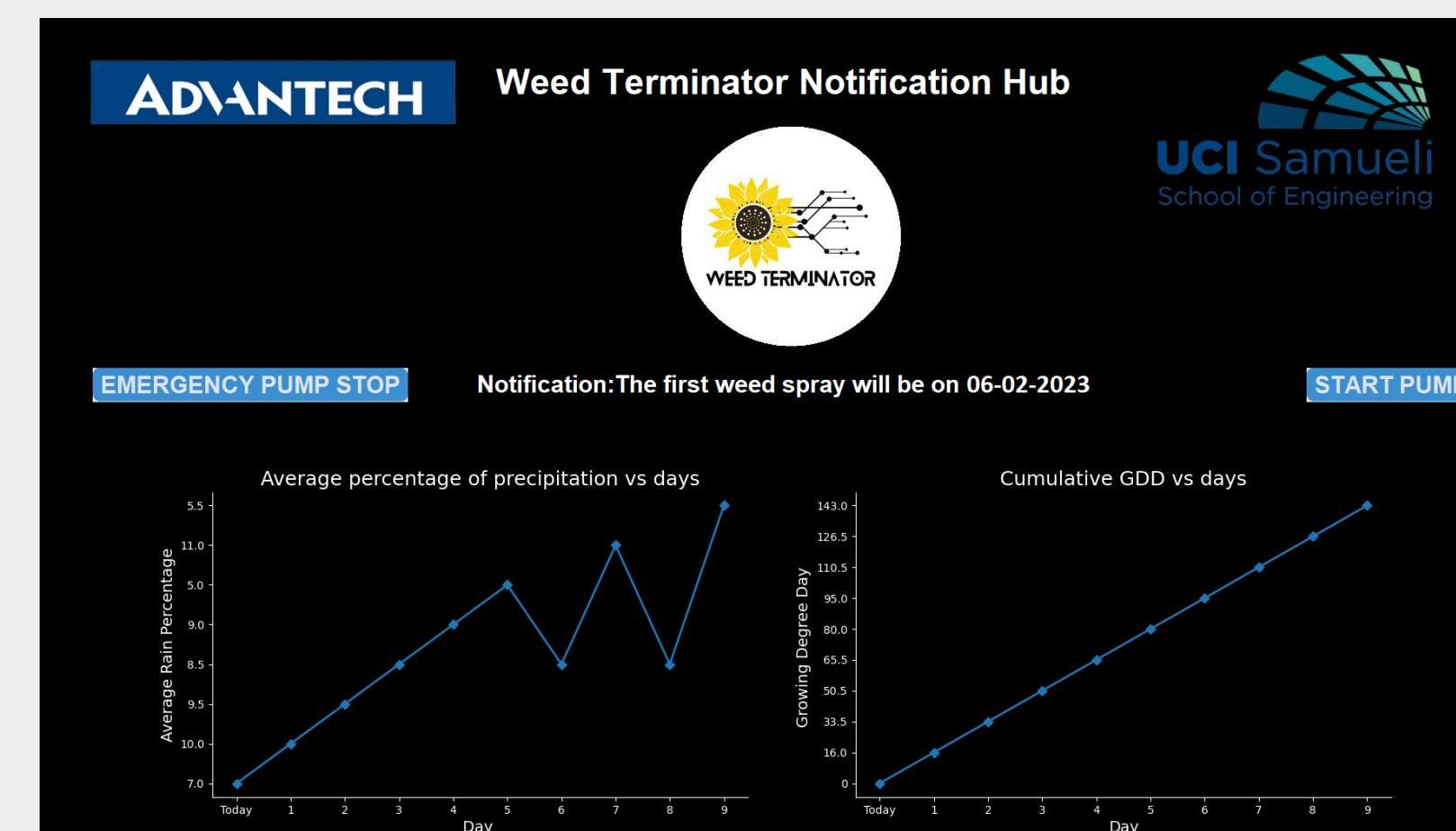


Total Man Hours Spent 1682 Hours

Designs & Prototypes



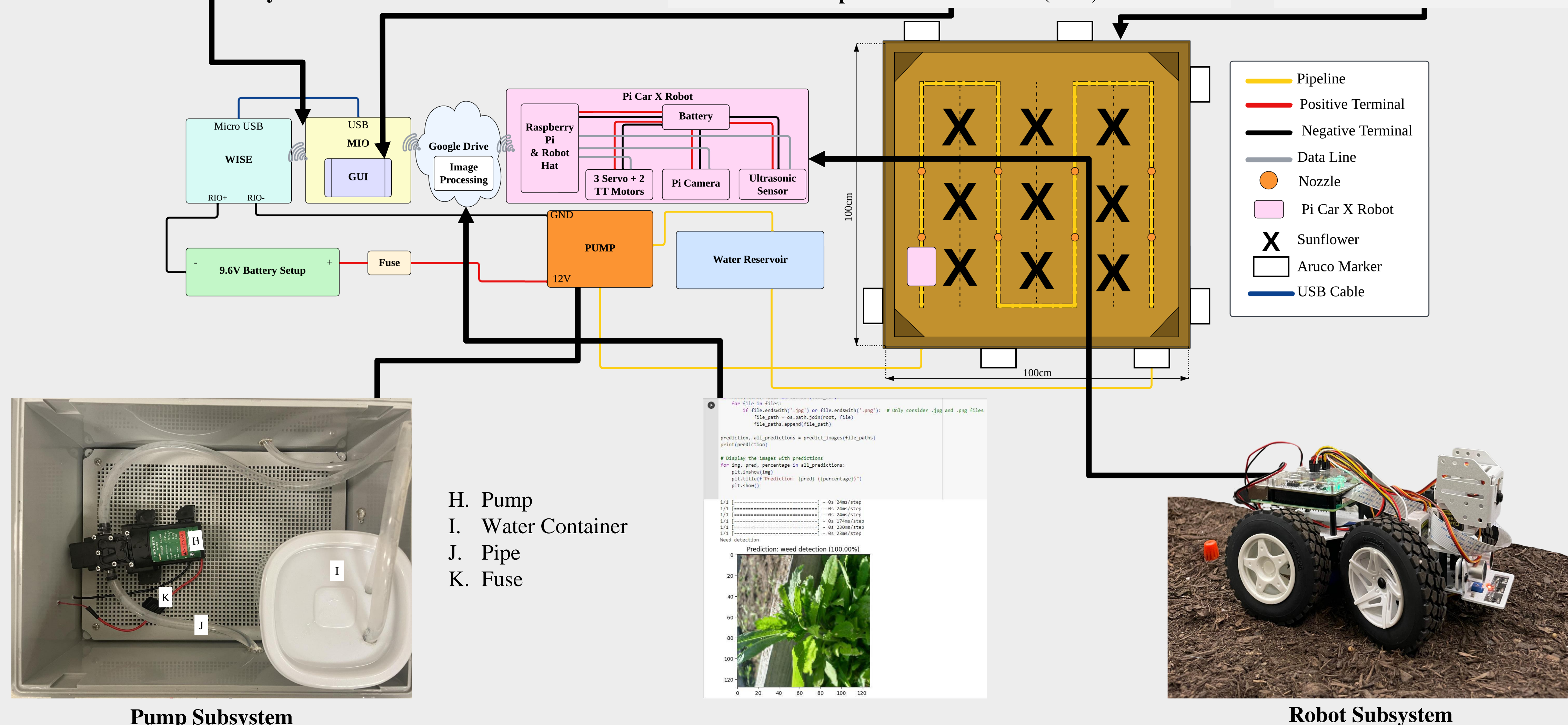
- A. WISE 4012E
- B. MIO 5272
- C. Wi-Fi Dongle
- D. AC/DC Adapter
- E. 9.6V Battery Setup
- F. HDMI Cable
- G. Extension Cord



MIO-WISE Subsystem

Graphical User Interface (GUI)

Test Bed



Initial Idea

- Finalizing the topic
- Subsystem Design
- Purchase Request Form - 1
- MIO-WISE Configuration
- Midterm Design Review

January - February 2023

Project Timeline

Subsystem Prototyping

- MIO-WISE subsystem prototype
- Pump sub system prototype
- Robot Navigation prototype
- VGG - 19 Image processing prototype
- Final Design Review

March - April 2023

System Integration and Showcase

- GUI and push notification
- System Integration and Circuit tweaking
- Test Bed creation for demo
- Midterm Design Review
- Final Video, Poster and Presentation

May - June 2023



smrithig@uci.edu