☐ Animal Detection

Problem: Rats eating away at field crops.

Solution: Rodent detection system to identify rats and then play a sound to scare them away.

How it Functions: Using image processing the detector will be able to identify rats and emit a frequency to scare them off.

Wildlife Detection Video:
https://www.youtube.com/live/tufyAAc-7cU?si=4-IUOiNwmkoj6USN

C++ Yolo Code:
https://medium.com/@shahriar.rezghi.sh/using-yolo-in-c-55d55419a947

Image detection through YOLO:
YOLO Object and Animal Recognition on the Raspberry Pi 5 | Beginner Python G…

PDF explanation on how to implement hardware through YOLO

Parts

- ~~Raspberry Pi 5 Model~~ **~~- (model B) Price: $100~~**
- Power Supply - should we get one for testing it? Could use breadboard I think (link): **Price 20$** Battery - replaceable battery
- ~~microSD card~~ ~~- (16GB)~~ **~~Price: 18$ - Best Buy~~**
- ~~Add Infrared for night time: Need Leds~~
- Adapter cables and power cords
- PCB
- 3D Printed Casings
- ~~Sound creation: speaker? Buzzer?~~

Testing Parts
- Wires
- Breadboard

Things to consider

- Waterproofing
- Size
- Durability
- Hidden/Camouflage

To Do:

- ☐ Circuit Design (Eagle)
- ☐ Photo Processing Research (YOLO)
- ☐ Sample Breadboard (Small Scale)
- ☑ ~~Parts Research~~

Sounds

Cat Hiss 1
Cat Hiss 2 (credit)
Cat Hiss 3 (credit)
Snake 1
Snake 2
Dog 1
Coyote
Mountain lion
Owl

Write updates below

12/10/24 Isaiah - followed this doc to get parts. I need the raspberry to actually put code into the workspace. researched more about the limitations of YOLO and ways we can improve.

12/27/24 Isaiah - worked on code

1/17/25 Isaiah & Carter - got some of the supplies

- raspberry, camera, buzzer, cooler, audio amplifier & sensor

2/16/25 - Isaiah tried to set up everything but missing some cables