AgroBot

ME Tech

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Deforestation

- One of the largest issues facing the environment today is **deforestation**.

- It leads to **loss of biodiversity**, **soil degradation**, an **increase of greenhouse gases**, and contributes to **climate change**.

- Manual reforestation is **labor-intensive and slow**, especially in remote areas.

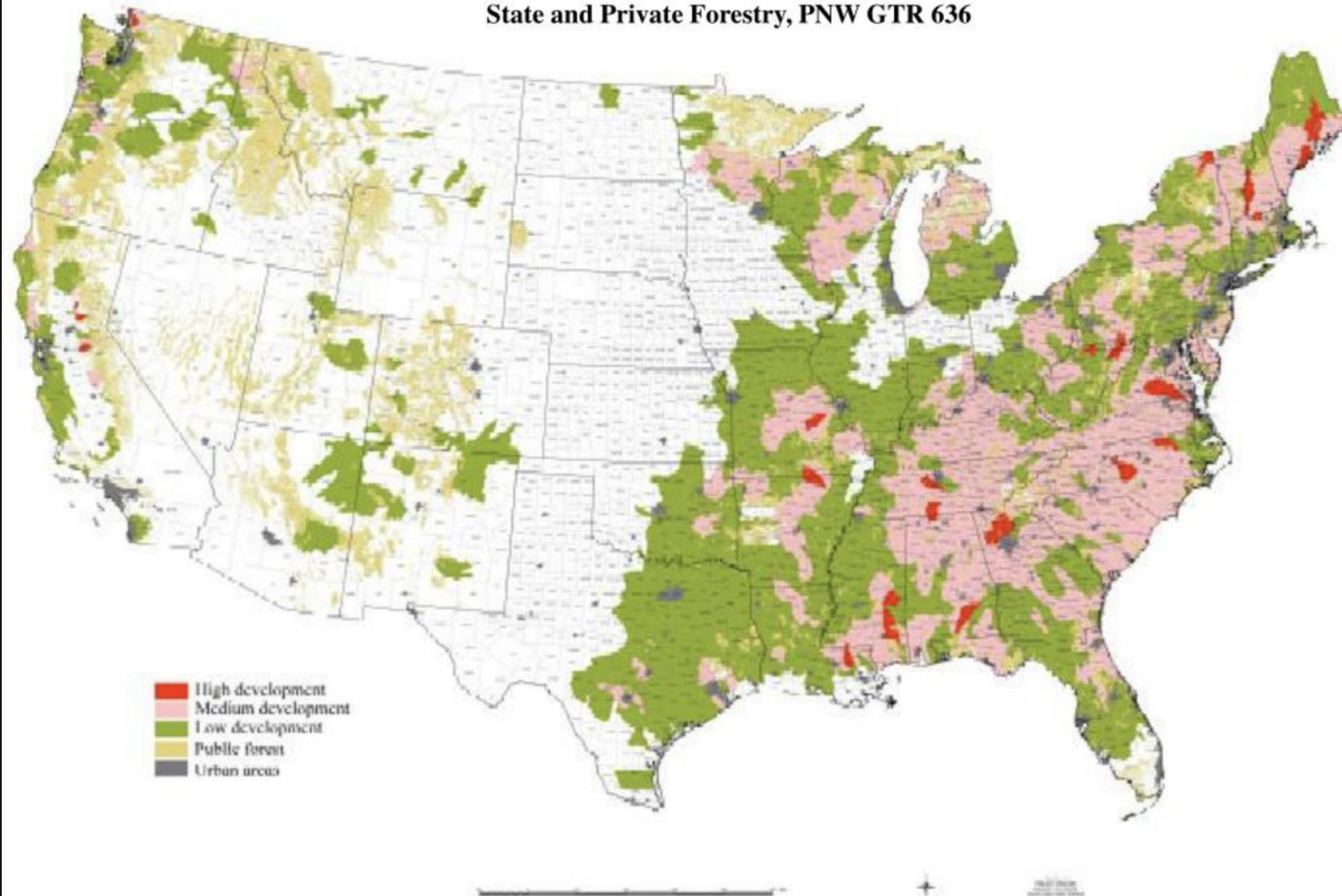Forests on the Edge
State and Private Forestry, PNW GTR 636

Legend:
- High development
- Medium development
- Low development
- Public forest
- Urban areas

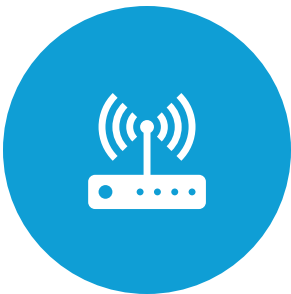Diagram of areas affected by Deforestation in the US

Our Solution

A **battery-powered, 2WD autonomous robot** designed for **reforestation**.

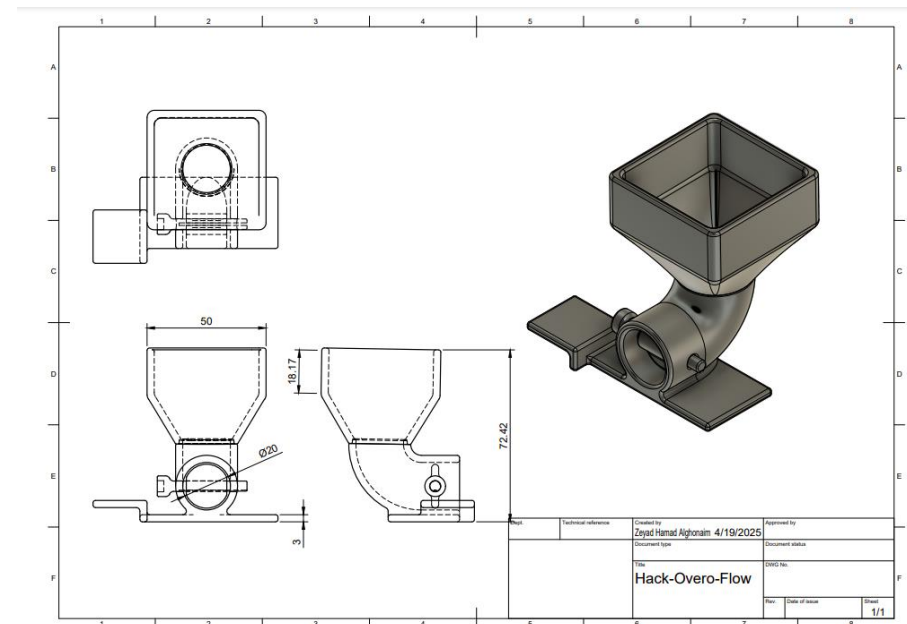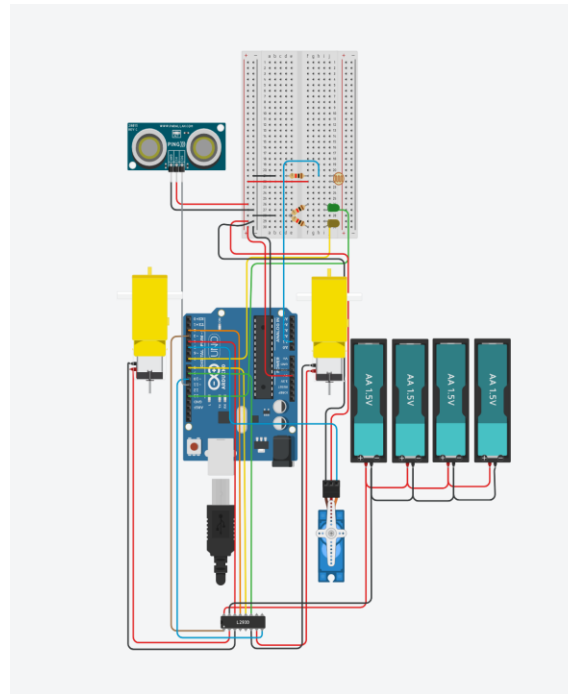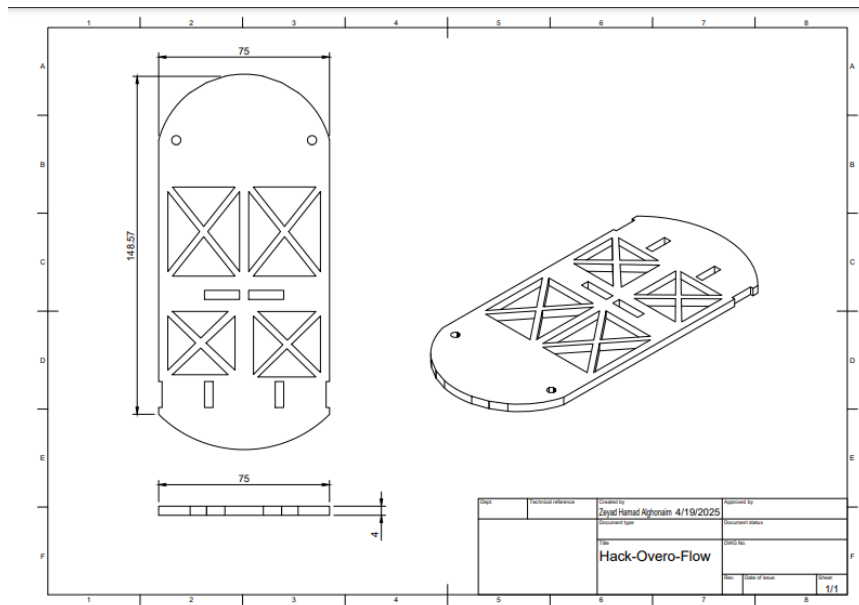Navigates **forest terrain**, identifies **sunlit planting spots**, and **plants seeds** autonomously.
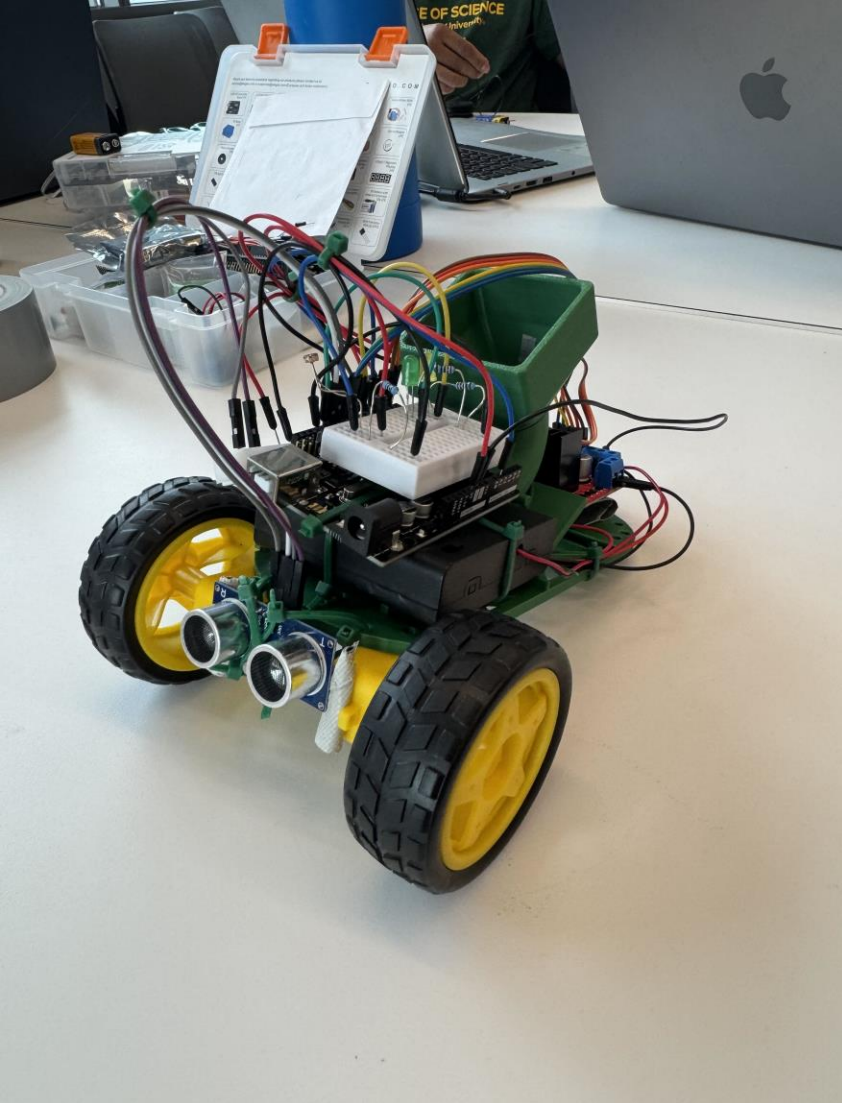
Uses **ultrasonic sensors** for obstacle avoidance and **light sensors** to find optimal planting conditions.
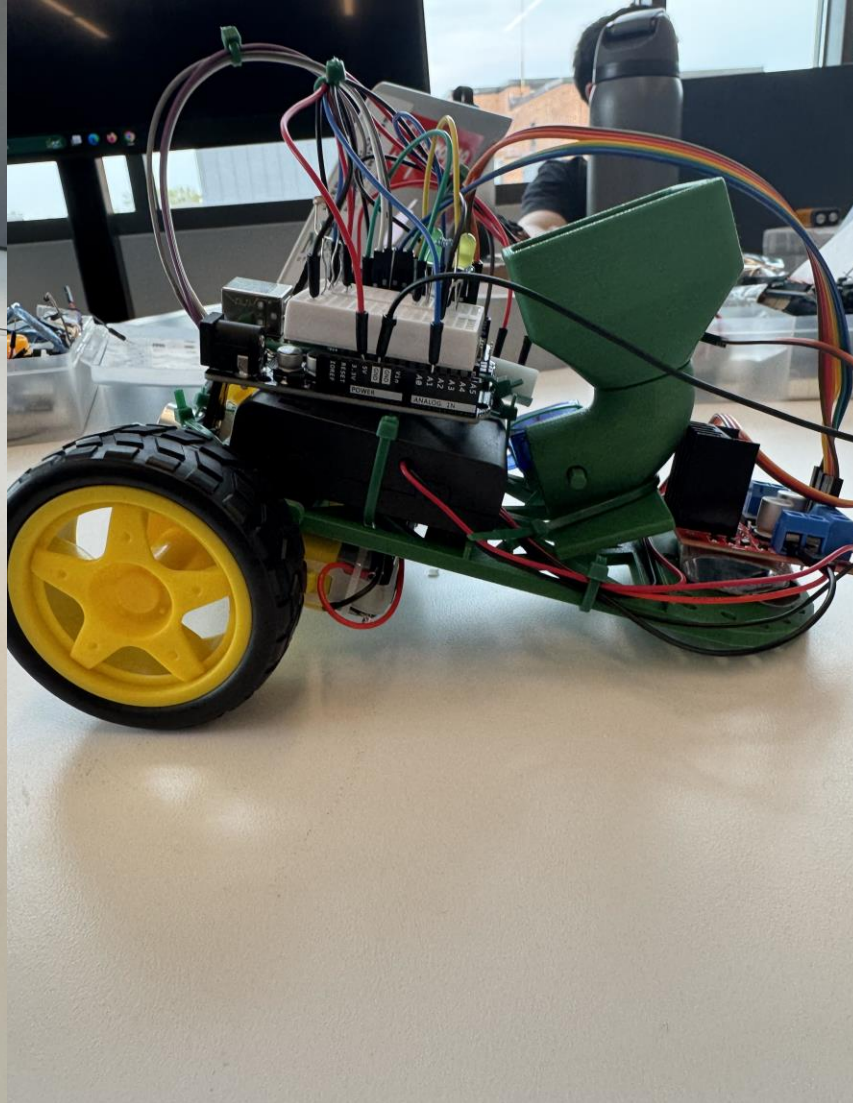
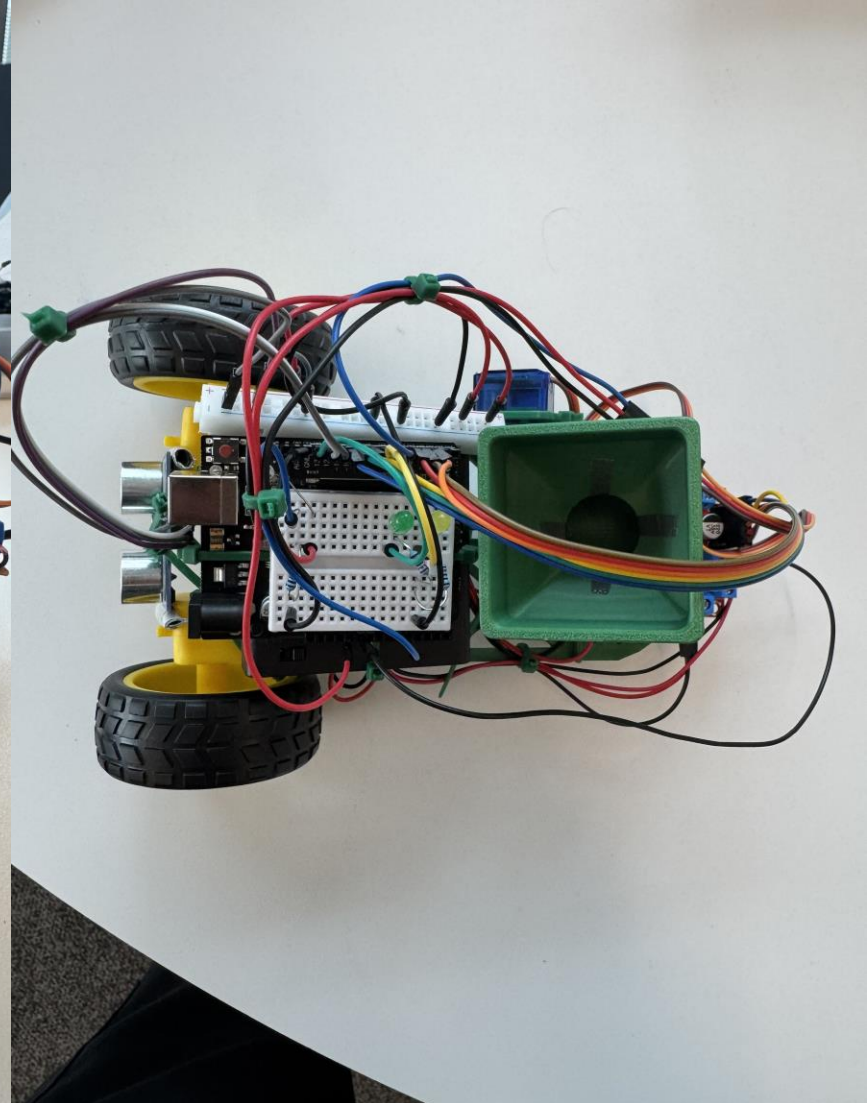**Custom 3D-printed dispenser** drops seeds at ideal spots.

Our Solution Pt.2

Front Right View

Right View

Top View

Improvements

Traction and Stability

- Make the RC a Four-Wheel Drive

Improve Automation

- Detecting objects on 180 degree with the Ultrasonic Sensor

Implementing Water Dispenser

- Using the water level sensor to detect how much water is in the tank

Shovel the soil

- 3D-Print shovel at the end of the Chassis

References

- https://www.slideserve.com/chandra/deforestation-research-in-the-united-states-evidence-to-inform-the-avoided-deforestation-discussion