FAMU-FSU College of Engineering

Team 507: Southeast Con
DR 4

Kelsey Gross, Ian Lemler, Luiz Santos, Eric Strawn

1/21/2025

Sponsors and Advisors

Dr. Oscar Chuy

Dr. Johnathan Clark

Dr. Bruce Harvey

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Meet the Team

Kelsey Gross

Drive Train Engineer

Ian Lemler

Collection Engineer

Luiz Santos

Beacon-Bin Engineer

Eric Strawn

Structural Engineer

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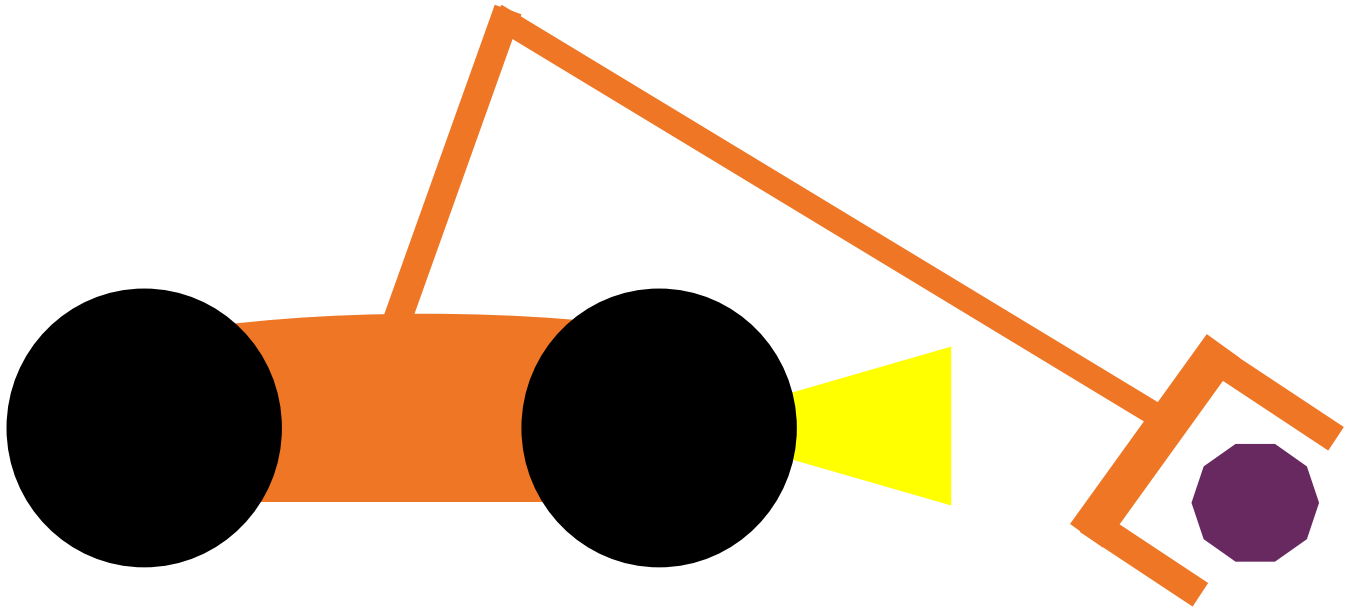
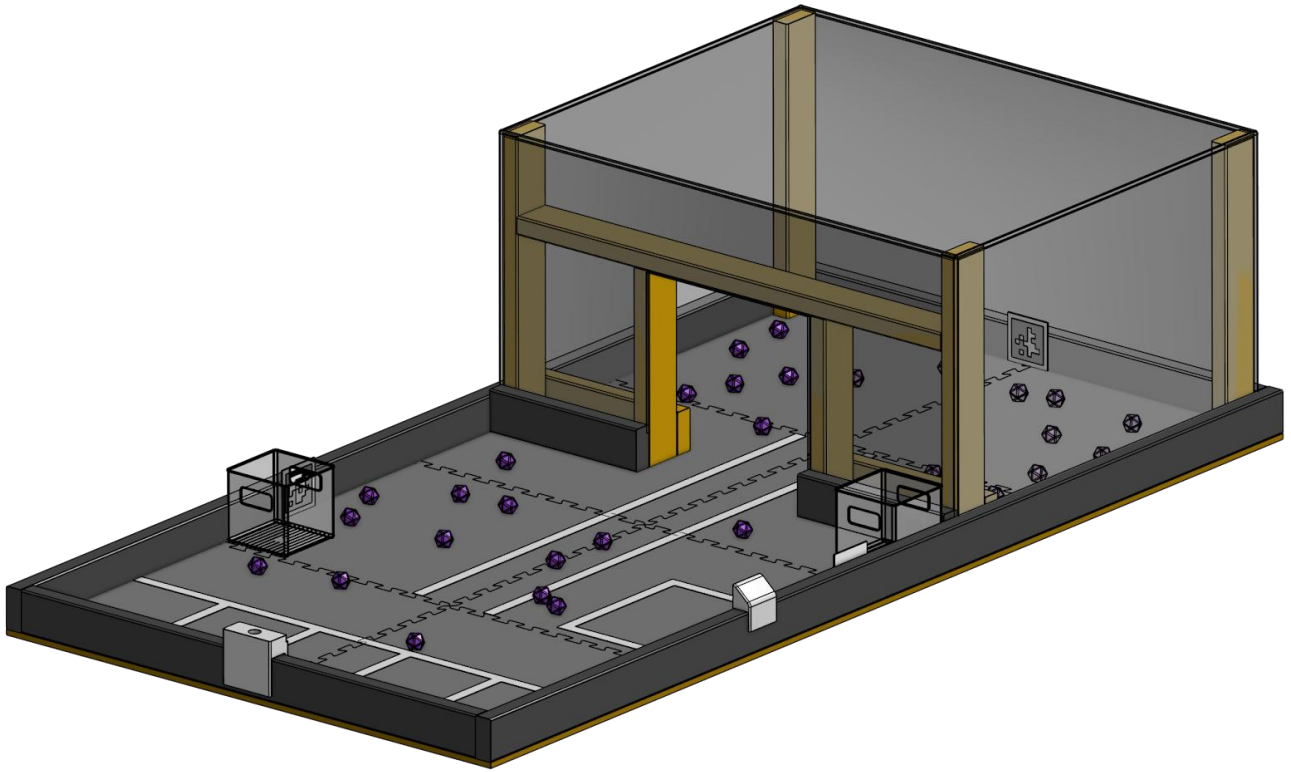
Objective

- The objective of this project is to design and develop a robot that will complete tasks and score points at the IEEE Southeast Con hardware competition.

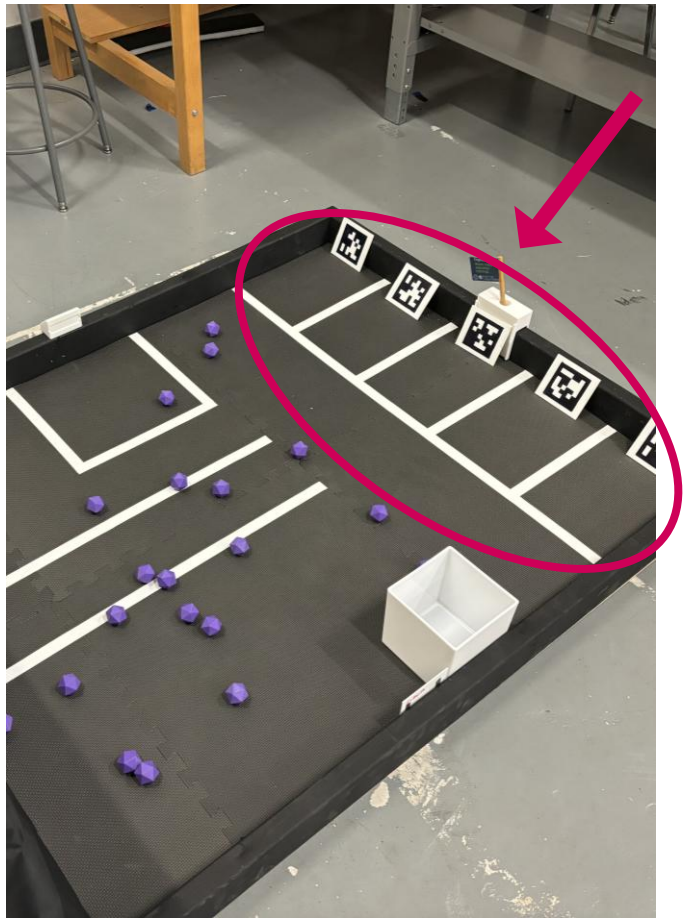


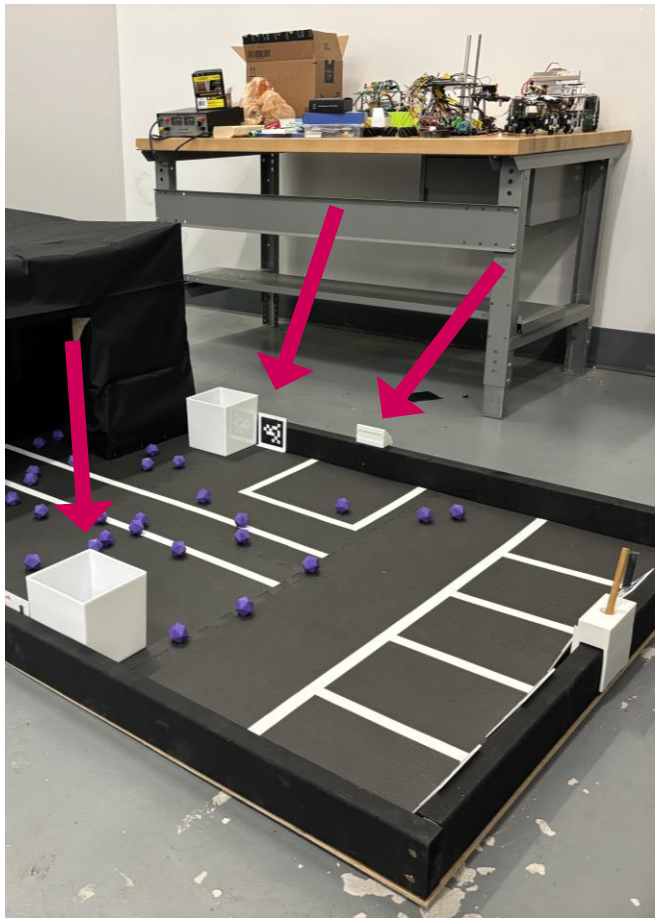
Project Description

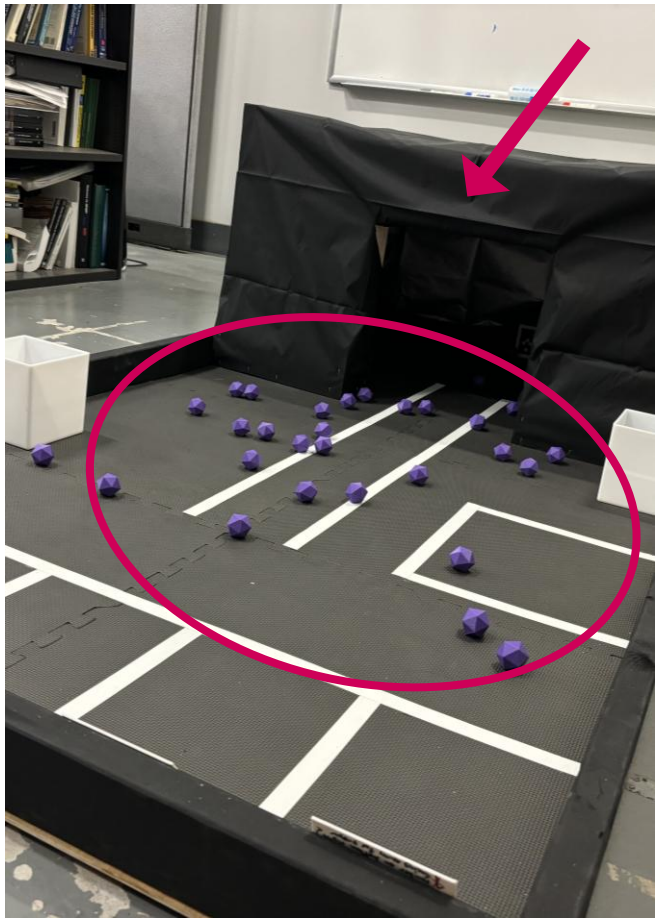
- Regional Competition for the Southeast States
- Design, build, test, and program a fully autonomous robot
- Work with ECE departments team
- 3 Minutes to earn as many points as possible
- Earn points by completing various tasks



The Game Field



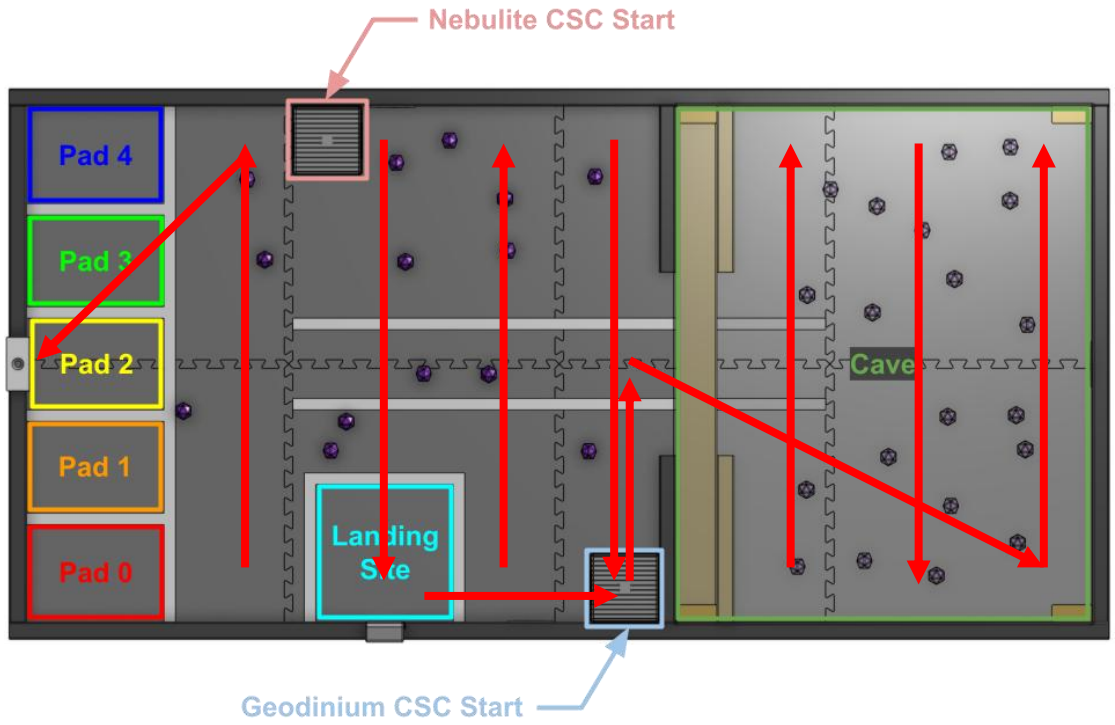




Eric Strawn

Point Optimization

Ideal Plan	Points
Out of the Landing Site	5
Out of the Landing Site within 3 Seconds	5
In the Cave (First Time)	15
Cosmic Shipping Container in Telemetry Rendezvous Pad	30
Geodinium in the Geodinium Cosmic Shipping Container	
Team Beacon has at least some portion in the Beacon Mast	40
In the Cave Points Gained	52
Out of the Cave Points Gained	88
Total:	235



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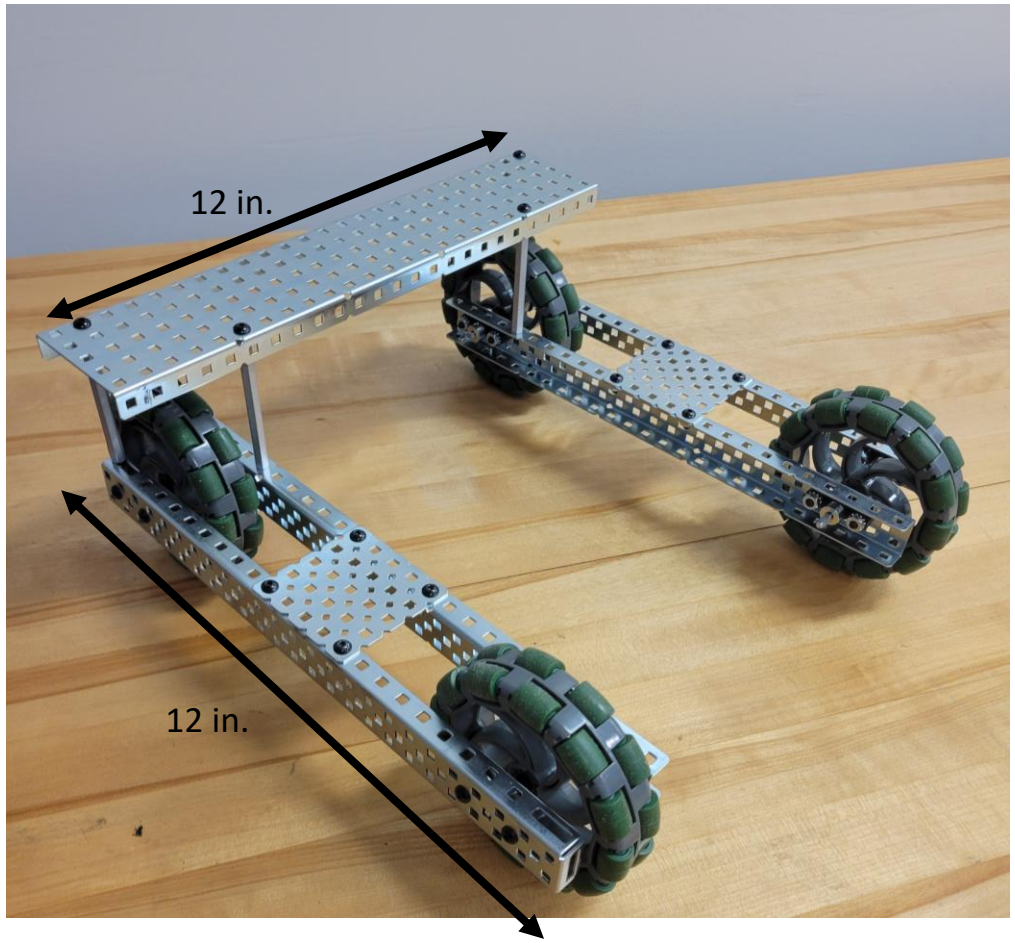
Past Work

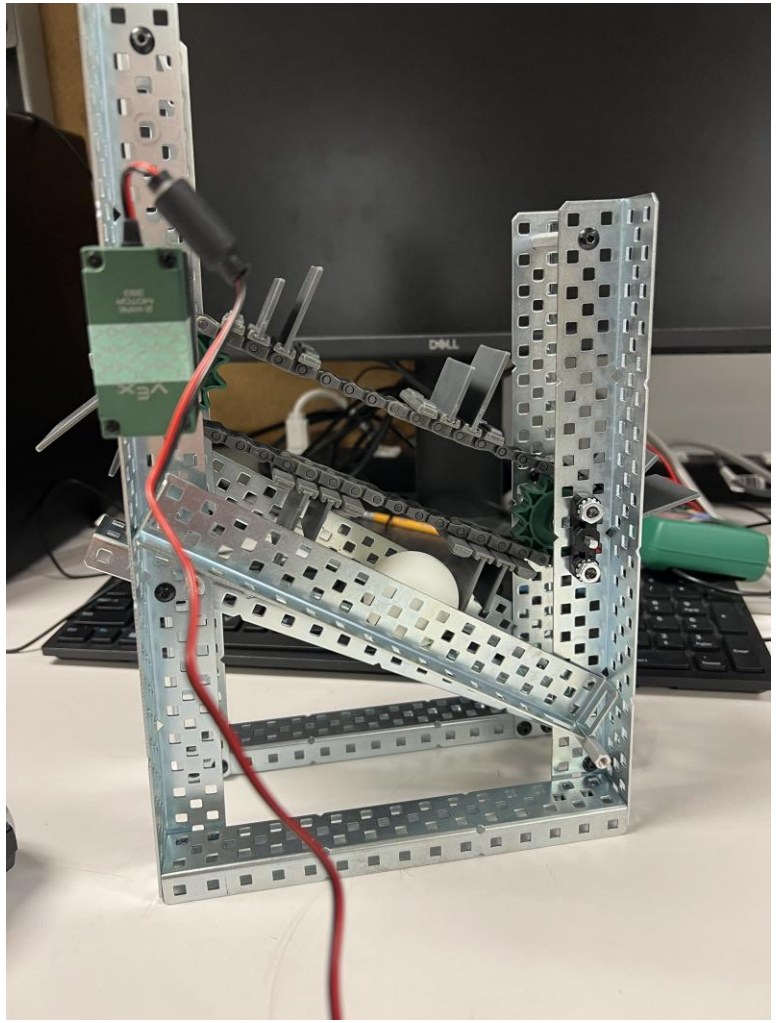
Initial Drive Train

- Proof of drive train concept
- Give a visual representation of start size constraint in the X and Y axis
- All omnidirectional wheels

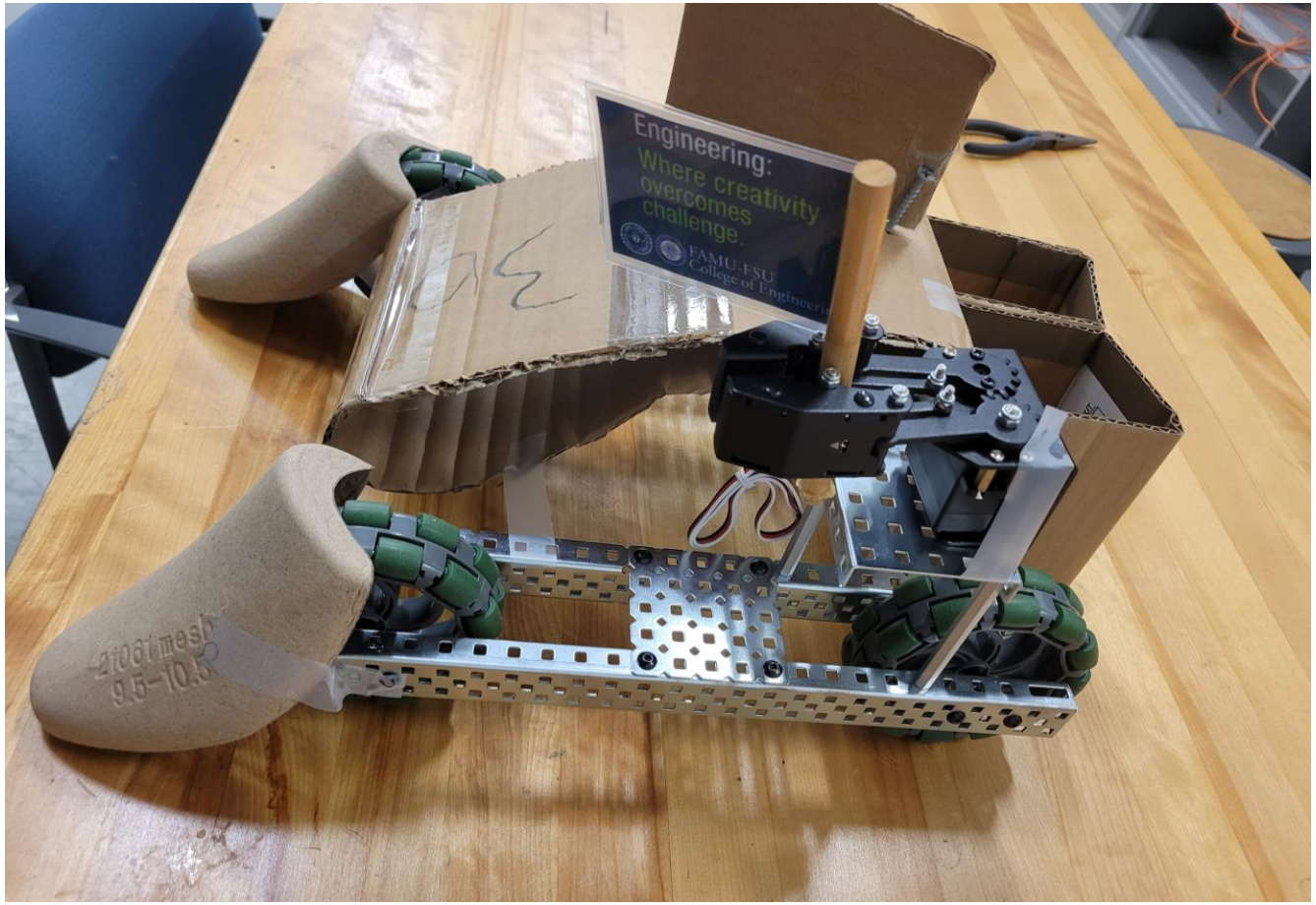


Lazy Hercules Intake

- Validate Lazy Hercules intake methodology
- Test whether the magnets in the Geodinium were strong enough to stick to steel
- Spec-ing of motors for the conveyor belt



Prototype 1


Engineering:
Where creativity
overcomes
challenge.
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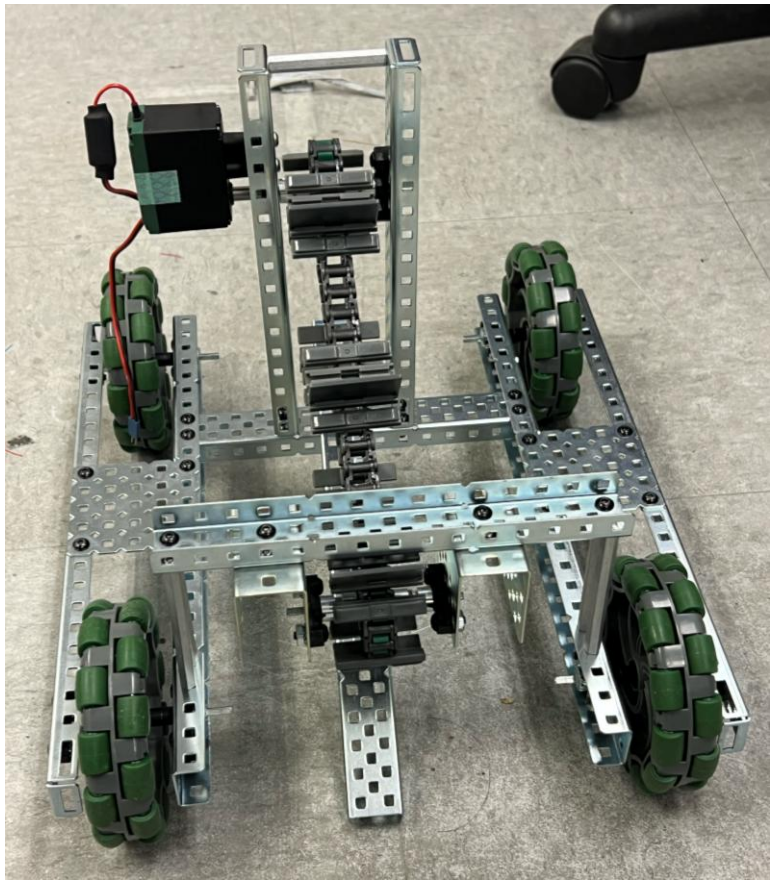
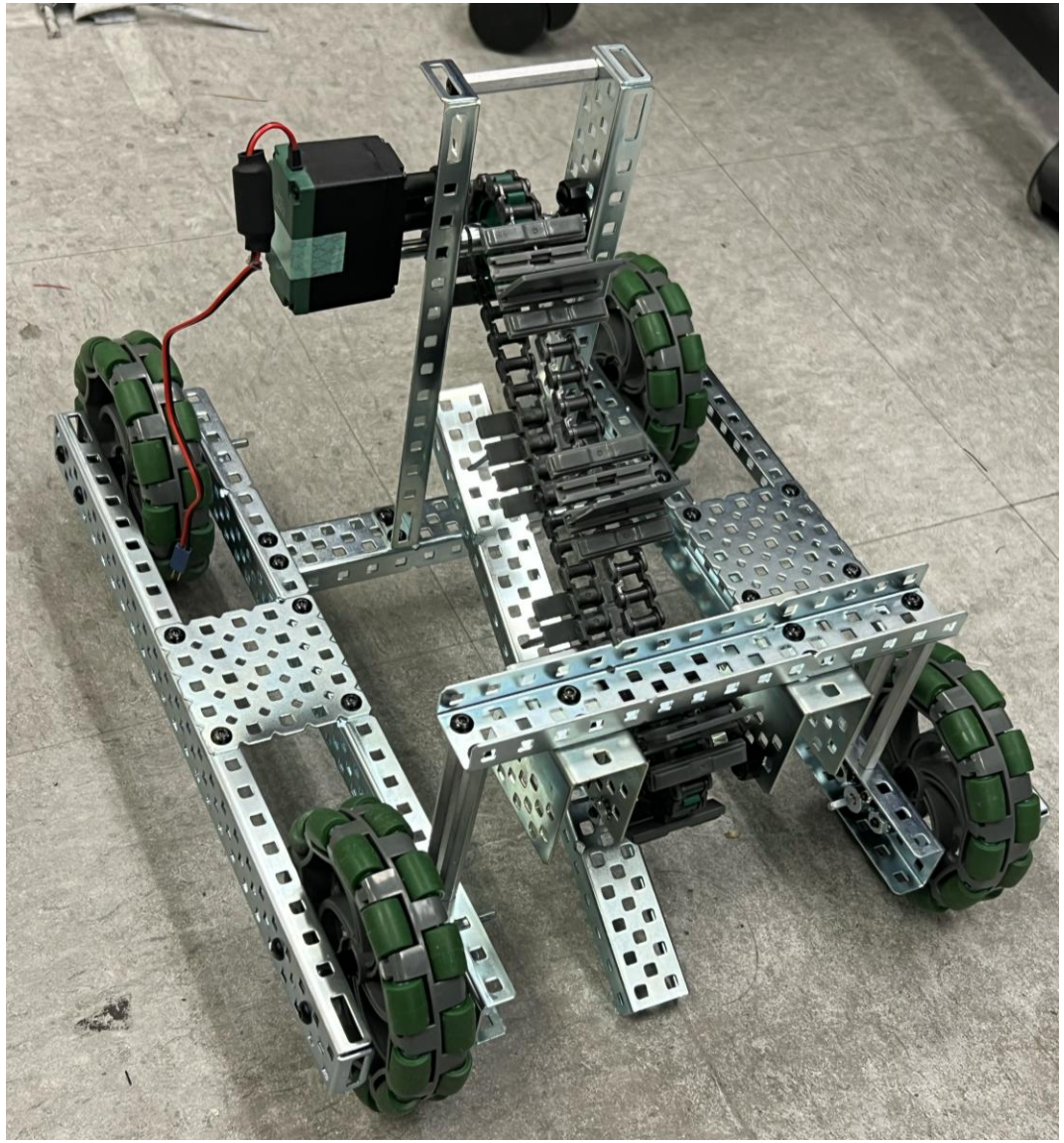
Prototype 2





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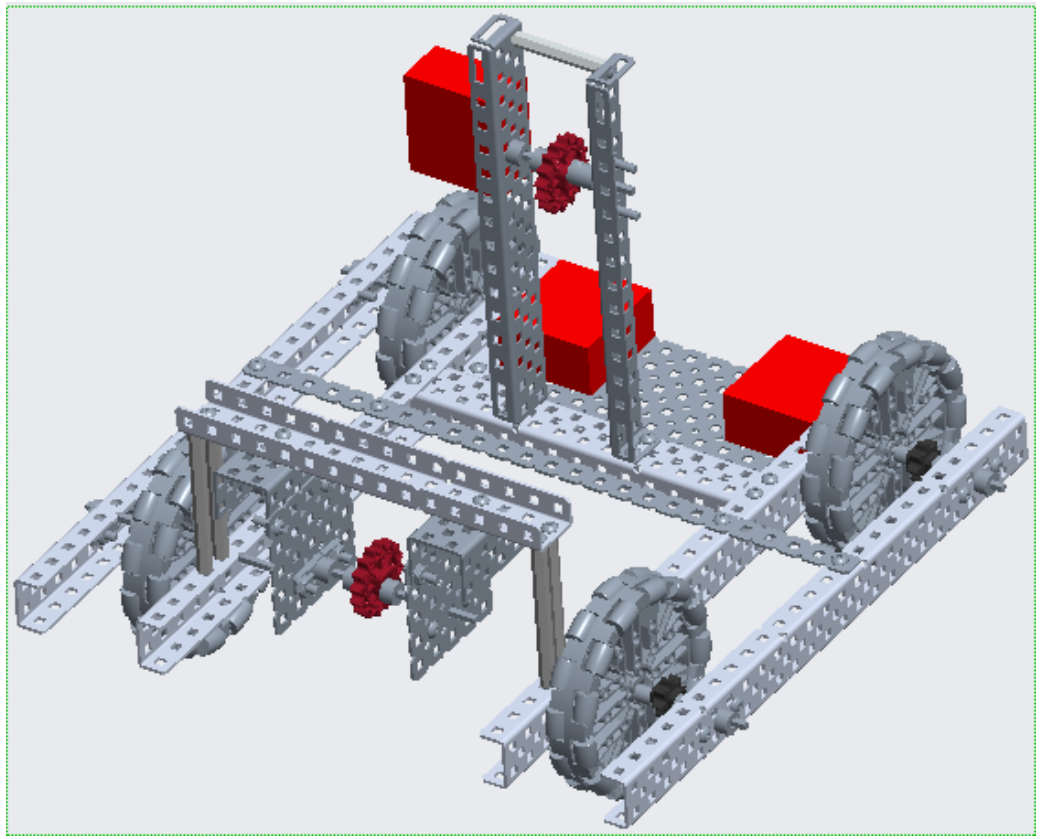
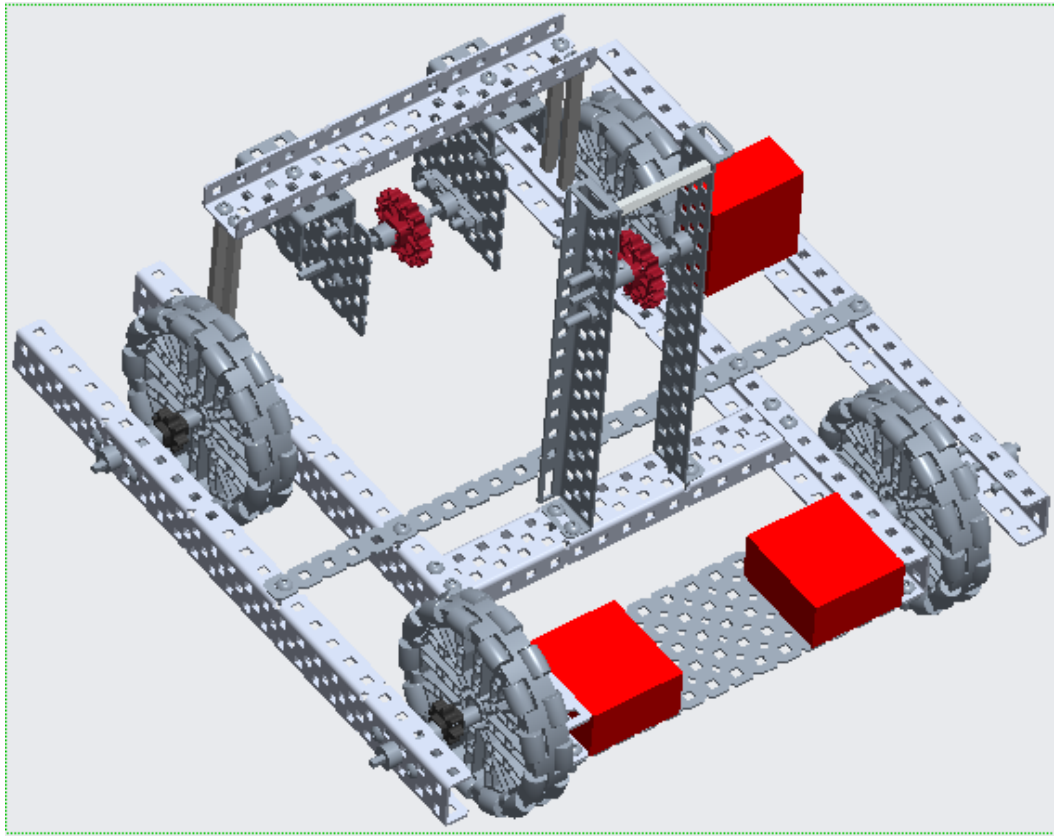
CAD of Prototype 2





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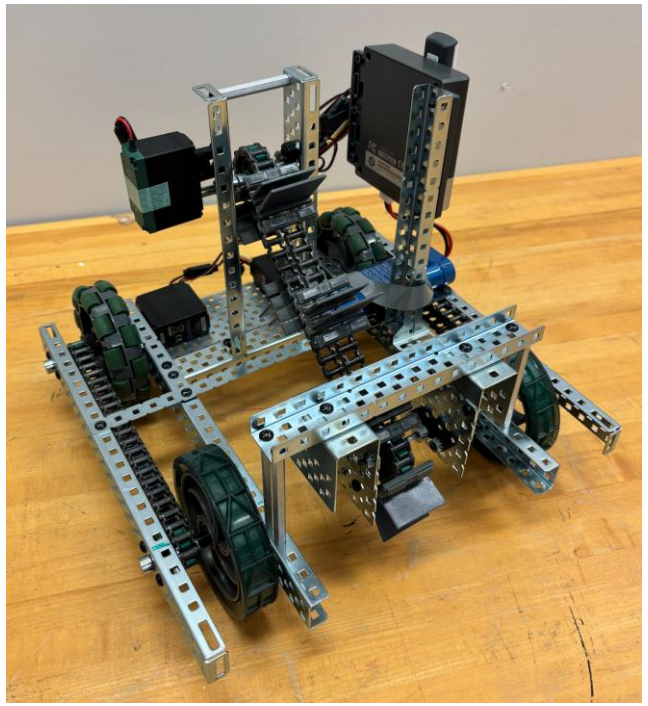
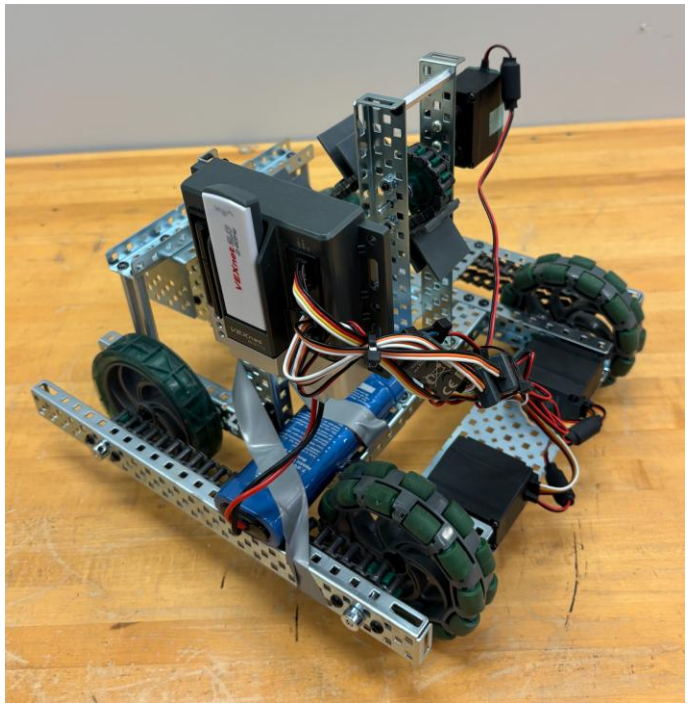
Prototype 3

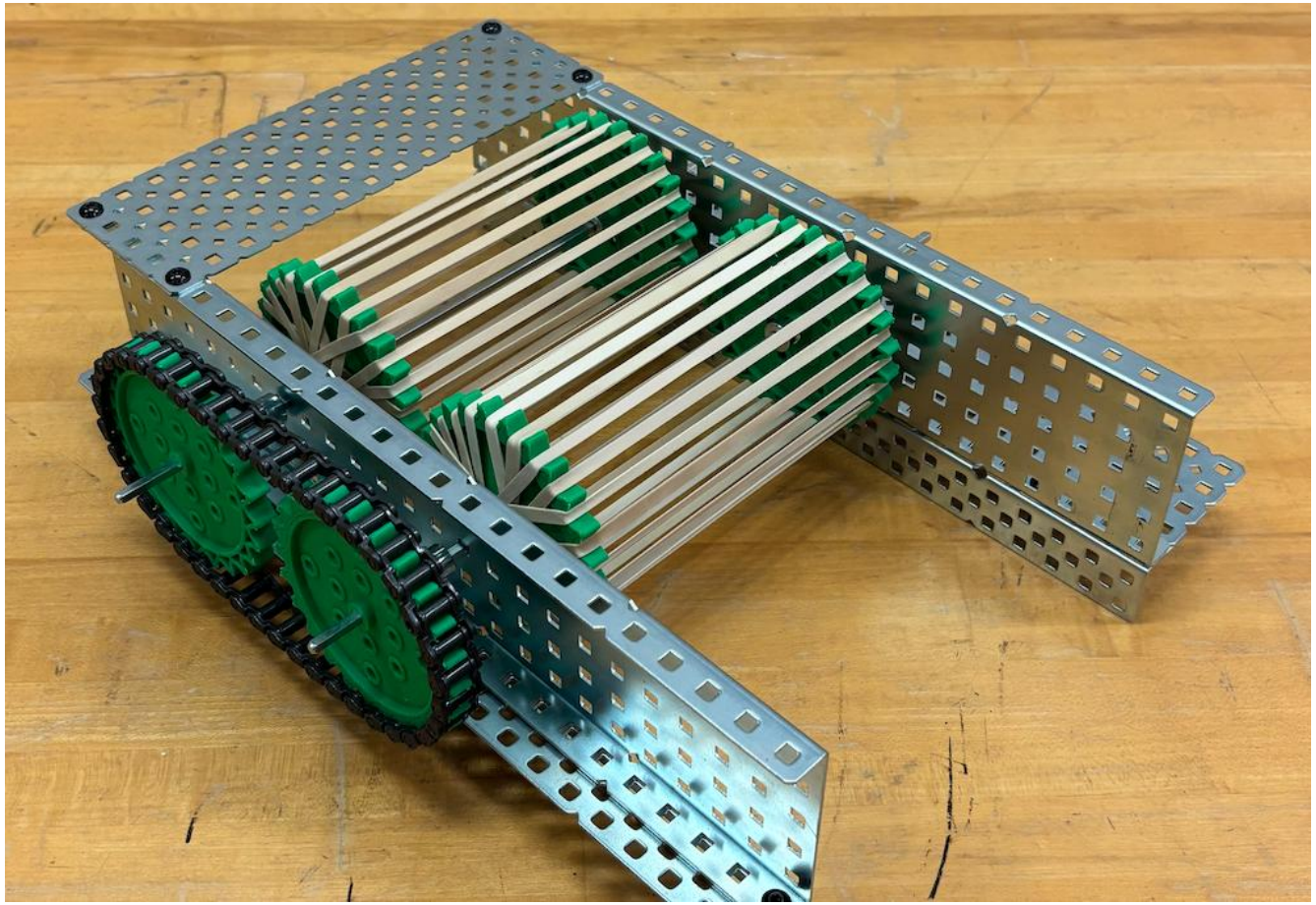





VEX
ROBOTICS DESIGN SYSTEM
JOYSTICK
ROBOT
VEXnet
GAME
CONFIG
VEXnet
802.11g
7
8
4
3
1
2

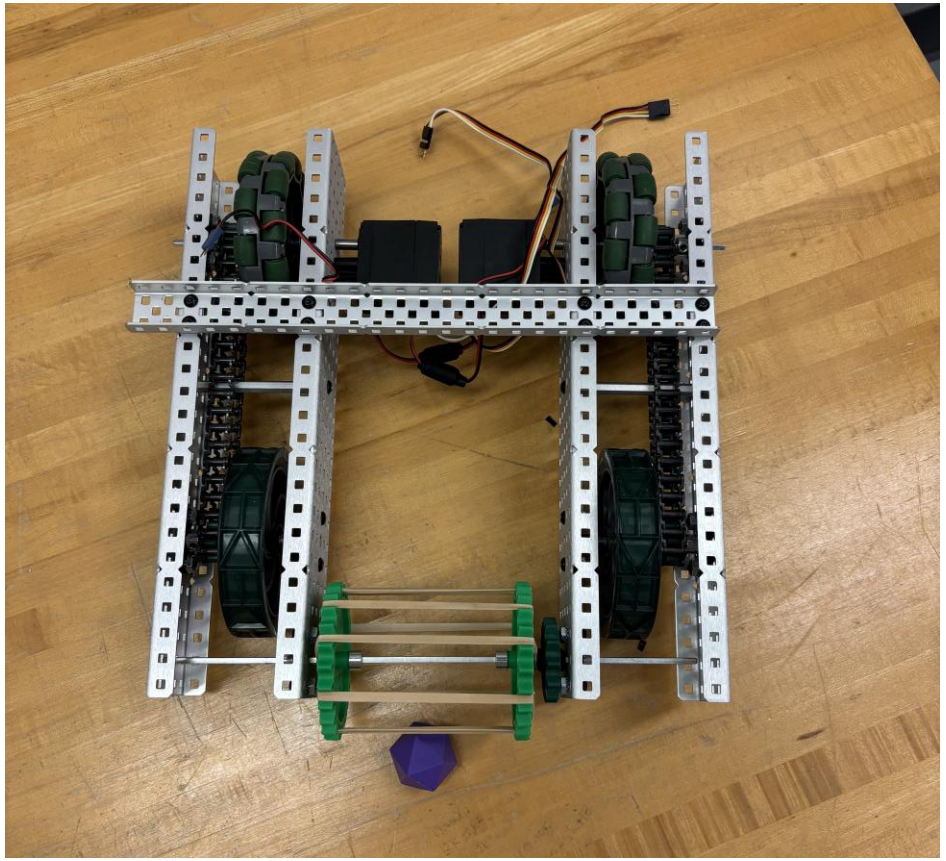
Current Work

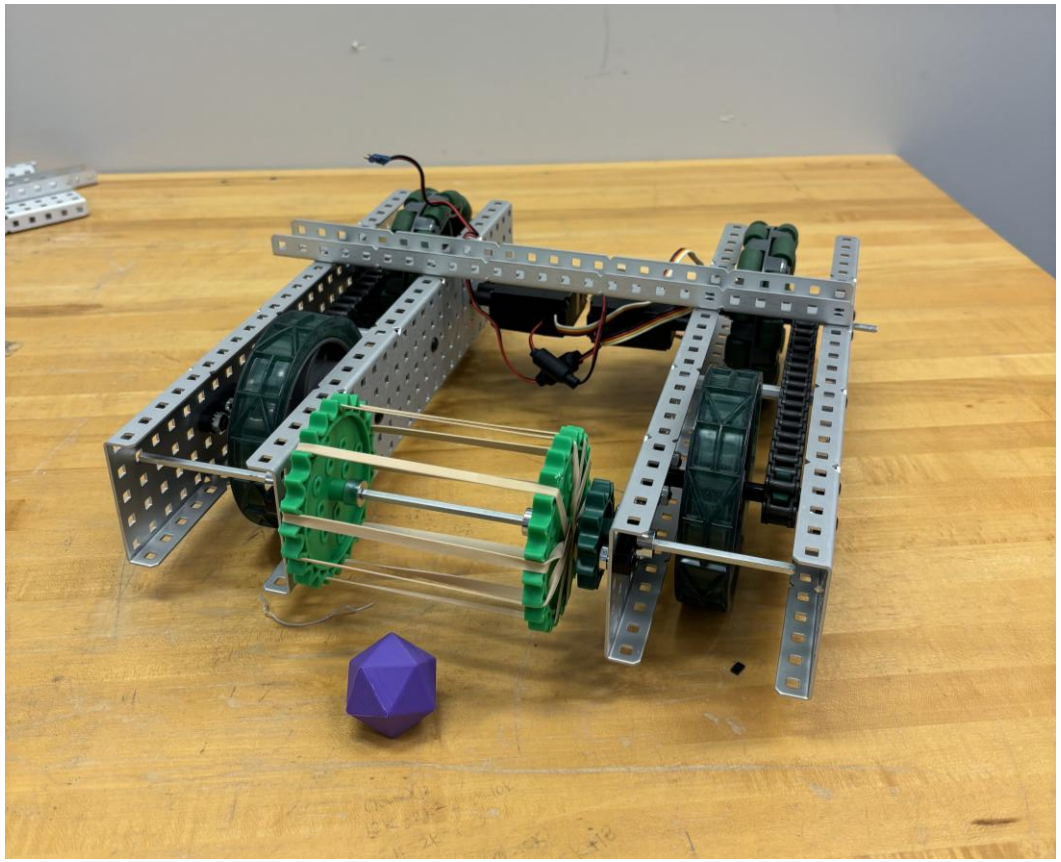
Rubber Band Intake



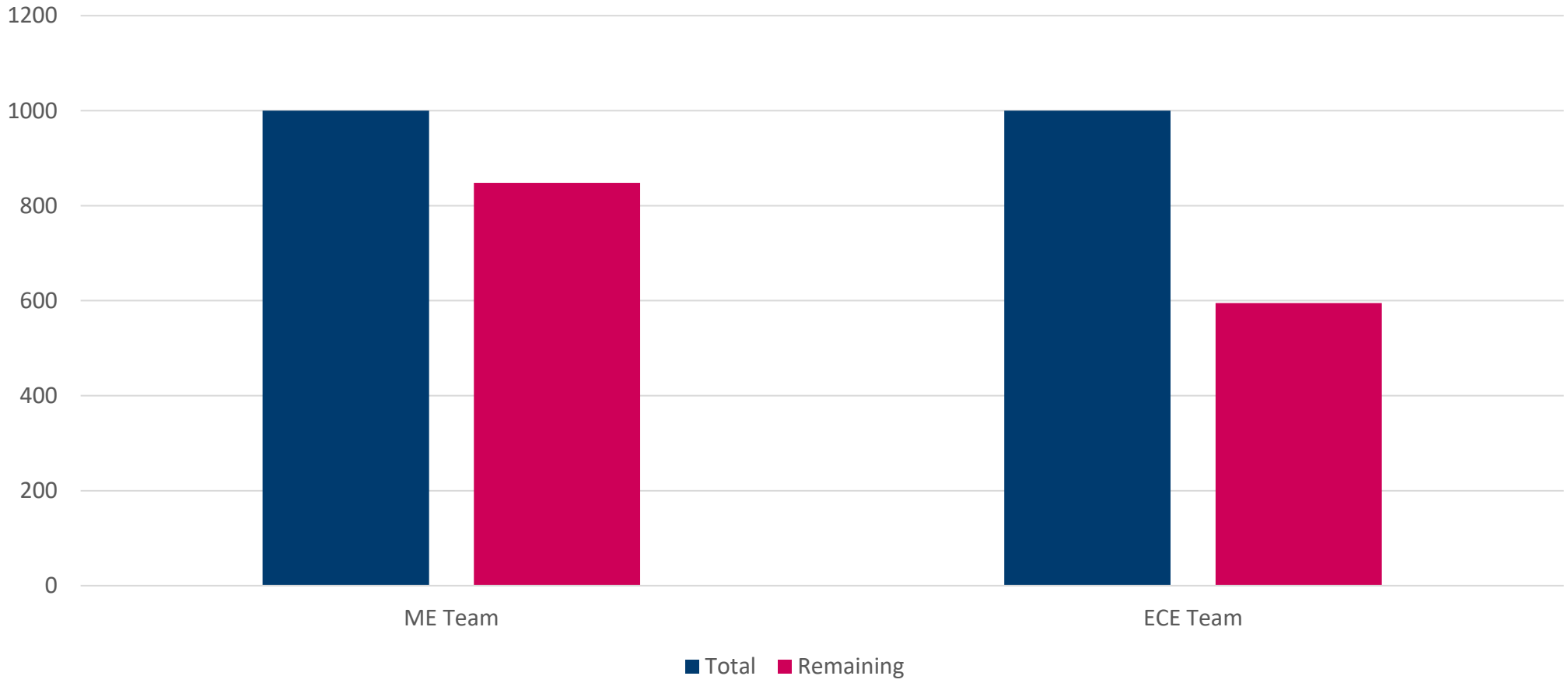
- Test rubber band intake with astral materials
- Test on flat surface

Prototype 4

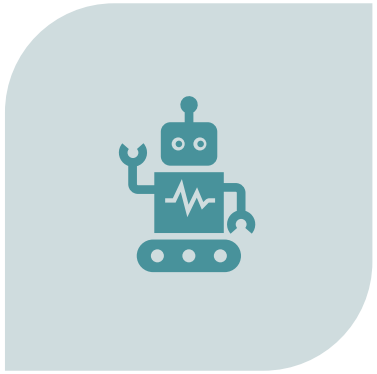




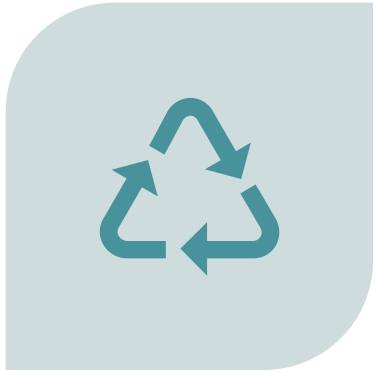
Budget



Future Work



HAVE THE ROBOT ASSEMBLED BY MID/LATE FEBRUARY



HAVE INTERGRATION BETWEEN THE TEAMS DONE A WEEK BEFORE THE COMPETITION

GONE FOR COMPETITION MARCH 27TH - 30TH