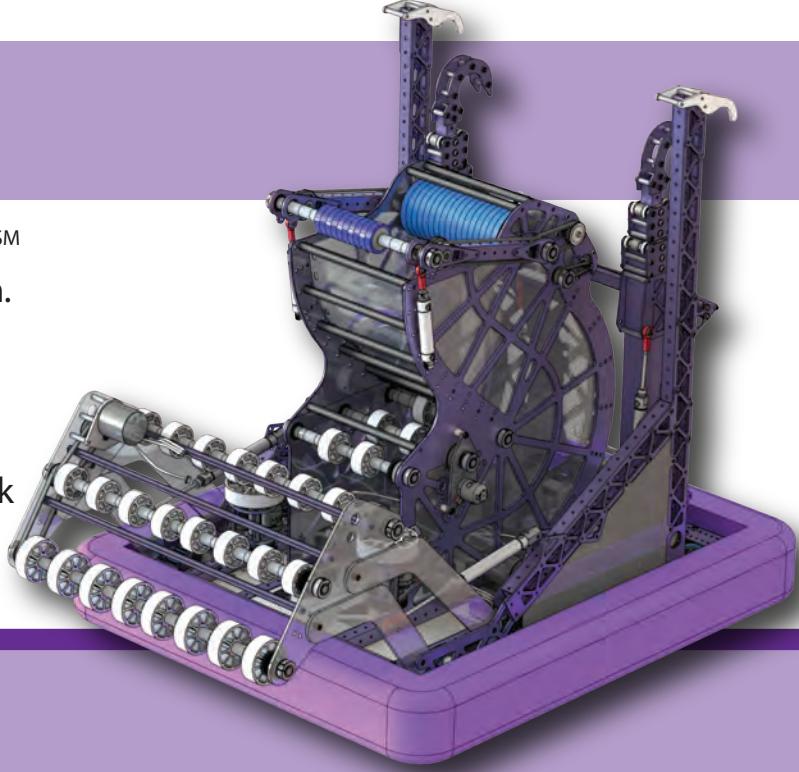




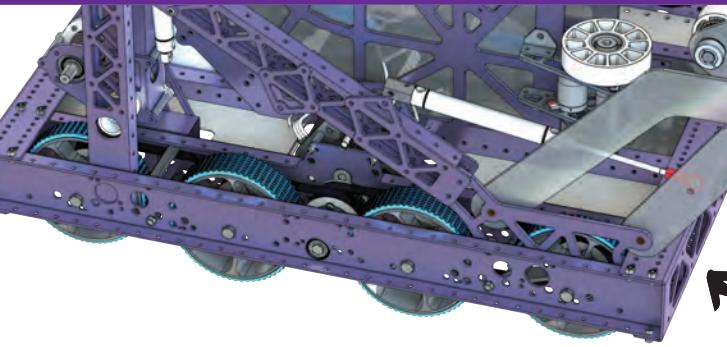
# CyberTooth

**Cobra** was designed to play the RAPID REACT<sup>SM</sup> game for the 2022 FIRST Robotics Competition. Influence was taken from our 2021 INFINITE RECHARGE<sup>SM</sup> robot **Pegasus**.

Priorities for this design were placed on a quick traversal climb, high shot accuracy with low bounce-outs & quick control of game pieces.



## COBRA



### Drivetrain:

Purple powdercoated AndyMark AM14U4 Frame with 8WD

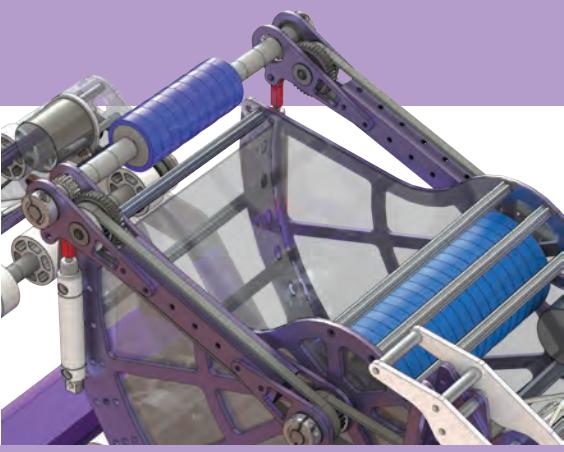
- 8 Performance Wheels with Nitrile Tread.
- Center wheels are wide for grip.
- NEO Brushless Motor Drivetrain for optimal acceleration and speed



### Intake:

4-Bar Linkage with high-powered wheel array brings Cargo into the robot quickly and securely.

Dual NEO motor input to spin fast and overpower any ball-jamming  
• Compact 4-bar design folds flat to start and protect against damage  
Custom colored compliant wheels and bumpers compress during pickup



### Shooter

S-shaped wheeled shooter with variable angle powered hood allows for accurate shots from multiple distances.

- Powered roller hood controls back-spin to reduce bounce-outs.
- Pneumatic hood changes angle to change shot trajectory.
- Built-in encoders to set target velocity for different field locations



### Climber:

Customized AndyMark Climber in a Box with additional l hooks for traversal

- 2-Stage telescoping climber to reach high while remaining compact.
  - Spring loaded static hooks to hold robot while traversing
  - NEO Brushless Motor with 12:1 Sport Gearbox for fast lifting

AndyMark  
**CLIMBER**  
IN A  
**BOX**

CyberTooth students worked side by side with AndyMark engineers during the 2021 off-season to design and develop the Climber in a Box. This product was piloted and tested on the CyberTooth robot and this year is used by hundreds of teams worldwide.