



CORNELL HYPERLOOP

**SPONSORSHIP PACKET  
2019-20**

# ABOUT

Cornell Hyperloop is an engineering project team from Cornell University that is developing a prototype of a revolutionary technology brought forward by Elon Musk.



Undergraduates



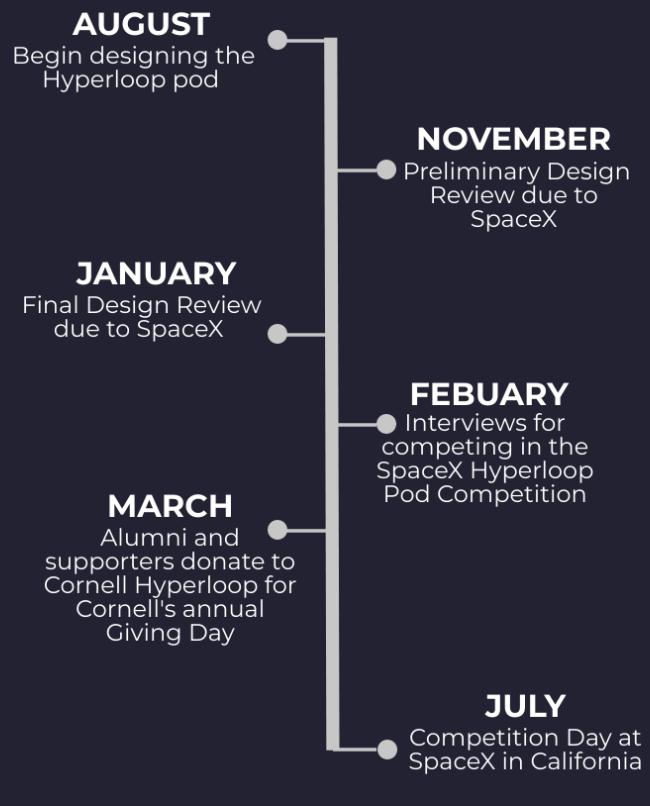
Majors



Sub-Teams

# MISSION

The Hyperloop is the next step in high speed, energy-efficient land travel. Our goal is to bring the Hyperloop concept to life and test our design for the SpaceX Hyperloop Pod Competition.



"Hyperloop is a game changer. It's taking a glimpse into the future of efficient transportation"

-Juan Garcia '20

# TEAMS



## BRAKING

The Braking team designs the **magnetic** and **mechanical** braking systems of the pod and integrates them into the pod. The team handles the careful manipulation of the **Halbach arrays** which make up the magnetic braking system by inducing **eddy currents** within the **conductive rail**.



## BUSINESS DEVELOPMENT

The Business team serves as a link between Hyperloop and the community. They are responsible for **acquiring sponsorships** from companies and **marketing campaigns** for the team while maintaining the team's social media websites.



## HARDWARE

The Hardware team works with **microcontrollers** and physical **electrical** components to **power** the entire pod, collect information that the team has deemed valuable and important to know, and ensure the overall **safety** of the pod.



## PROPULSION

The Propulsion team designs the components of the pod's propulsion system, featuring an **all-electric motor drivetrain**. The aerodynamic reinforced carbon fiber shell enable the pod to achieve **high travel velocities** while successfully minimizing drag and guaranteeing **structural integrity**.



## SOFTWARE

The Software team works on that the pod needs to function safely, including **communicating wirelessly** between the BeagleBone Black and the base station throughout its journey, developing the **GUI** that will convey and monitor pod data collected by the **sensors**, and providing a means for **manual control** of the pod if need be.



## SUSPENSION

The Suspension team is designing a high speed **electric drive system** to act as the pods primary source of **propulsion**. The team also builds the **chassis** and **rail follower** as the foundation of the pod.



## WEBSITE DEVELOPMENT

The WebDev team designs, updates, and maintains the team's **website**. They are responsible for creating a **monthly newsletter** that gives the latest updates on the pod to members of the community.

# POD



- Uses a high speed electric drive system to propel itself forward
- Brakes using magnetic brakes made of N52 Neodymium magnets using the concept of Eddy Effects
- Utilizes a passive lateral control system to maintain stability on the track
- Minimizes aerodynamic drag effects with a sleek fuselage design
- Decelerated by Eddy-Current brakes by manipulating current and electromagnetic fields
- Controlled through various sensors and microcontrollers that convey pod information to a base station

# SPONSORSHIPS



Pioneer  
~\$500



Innovator  
(\$500-  
\$2,500)



Disruptor  
(\$2,500-  
\$5,000)



Visionary  
(\$5,000+)

## VISIONARY

- Monthly calls to discuss the pod's progress
- Additional benefits can be discussed
- All Disruptor donor benefits apply

## DISRUPTOR

- Special mentions during competition
- Materials from competition weekend
- All Innovator donor benefits apply

## INNOVATOR

- A monthly newsletter with updates of our progress
- Pioneer donor benefits apply

## PIONEER

- Featured on the Cornell Hyperloop website
- Placement of logo on Cornell Hyperloop pod/gear

# BENEFITS



## Marketing

Opportunities to display your company's logo on our pod, website, sponsorship packets and newsletters.



## Networking

Direct access to connecting with Cornell University leaders.



## Tax Benefits

Tax deductions for donating to Cornell Hyperloop, a non-profit organization.



## Innovation

A new, revolutionary mode of transportation due to your contributions.

# BRAKE A POD!



## Contact

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If you have any questions, please contact us at [cornellhyperloop@gmail.com](mailto:cornellhyperloop@gmail.com)



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