

## **UC Irvine**

### **SSOE Research Symposium Dean's Awards**

#### **Title**

Hyperxite: Changing the Future of Transportation

#### **Permalink**

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#### **Authors**

Shankar, Adith Narayan

Dominguez, Ana

Asgarinejad, Arash

et al.

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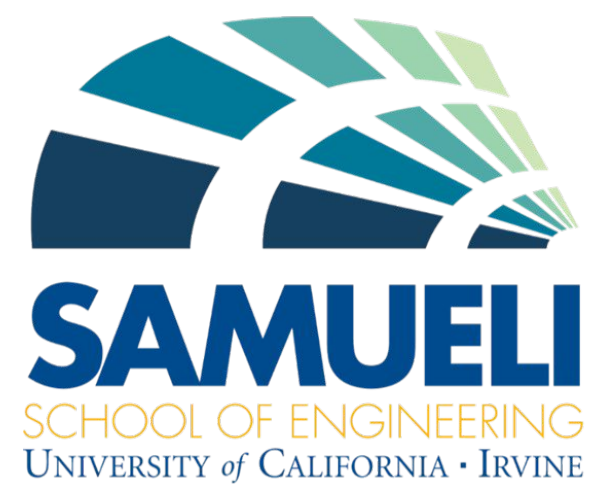
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# HYPERXITE

## Changing the Future of Transportation



### GOALS

- To win first place at the SpaceX Hyperloop Pod Competition in both overall point total and speed.
- To accelerate the development of a fast, economical, and sustainable transportation system.

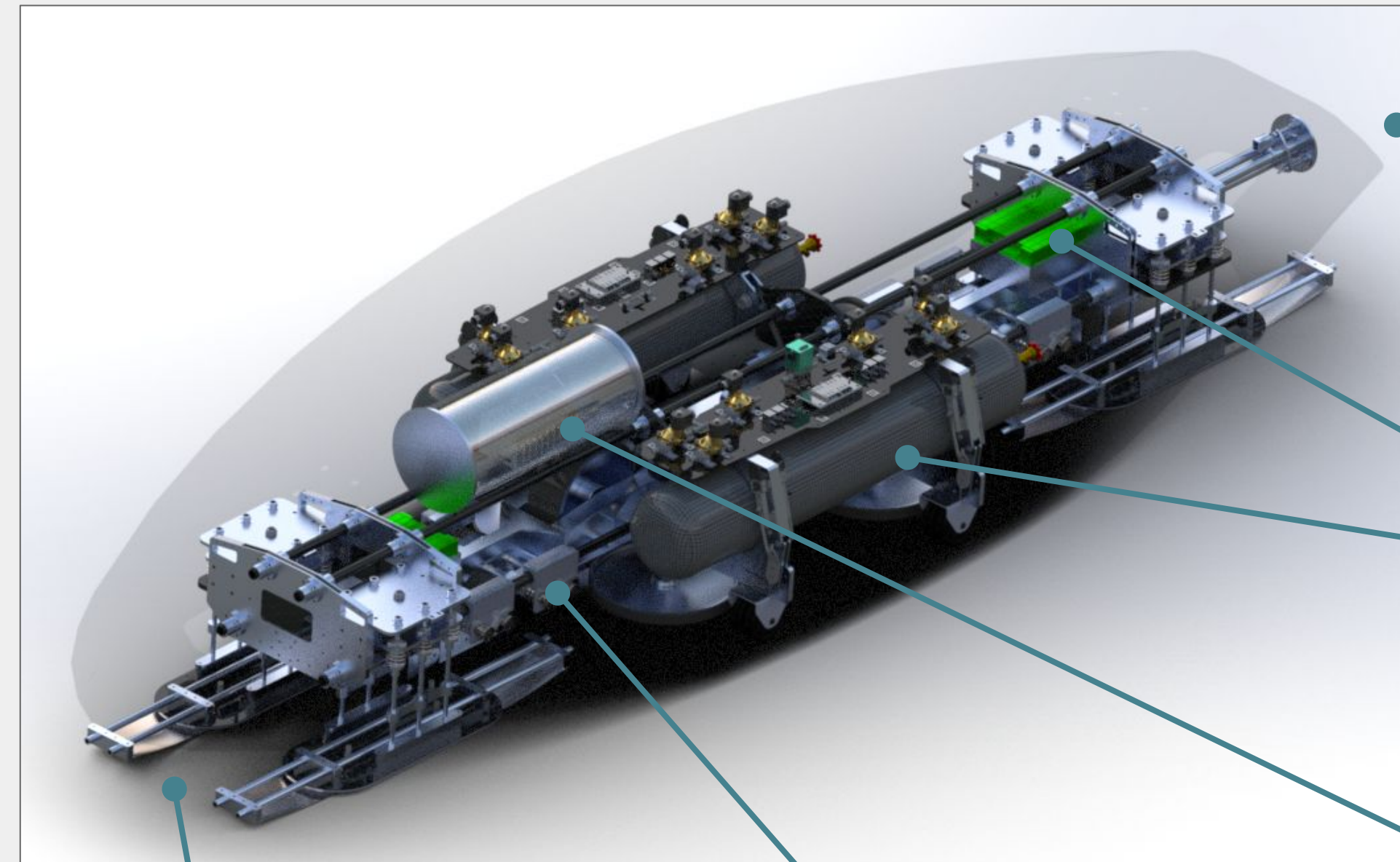
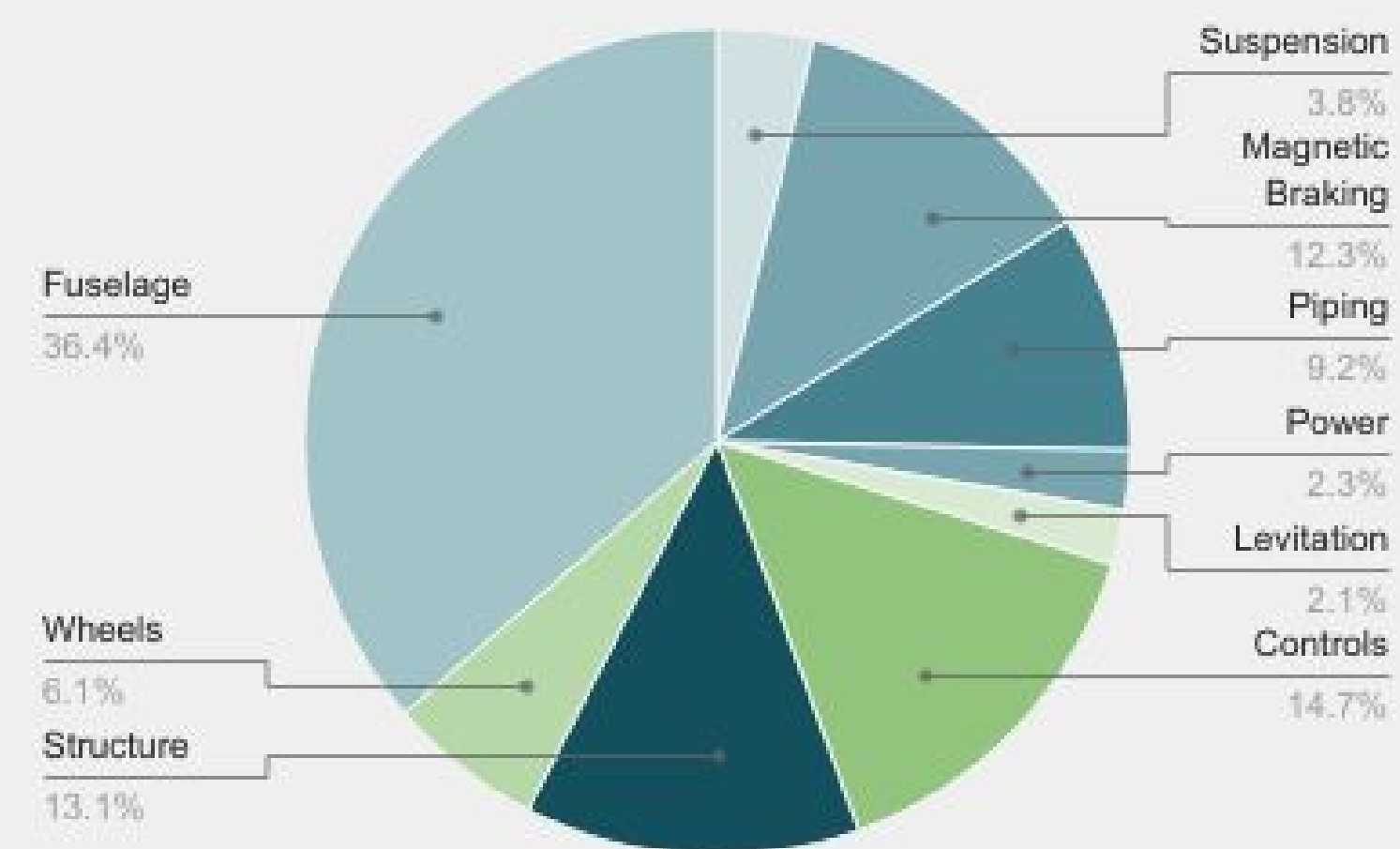
### OBJECTIVES

- Design and build a 1:2 scale Hyperloop pod that utilizes air based levitation and is optimized for a one mile test track.
- Educate and train students in simulation and advanced manufacturing.
- Collaborate with industry partners and students from many disciplines.



Mile long Hyperloop tube at SpaceX headquarters in Hawthorne, CA

### TOTAL POD COST



### STRUCTURES

The structure of the frame is designed to include a strong inner core from which carbon sandwich plates and aluminum are extended to support other systems.

### POWER

The power system consists of two compressed air tanks, one auxiliary tank, and two rechargeable battery packs.

### CONTROLS

The controls system manipulates actuators and valves to control the velocity, lateral stability and levitation of the pod.

### LEVITATION

The air based levitation system consists of four skis, each with a flexible bottom skirt and a carbon fiber top ski, that allow the pod to levitate on a cushion of air 2.5mm above the surface of the track.

### MAGNETIC BRAKING

The brakes use non-contact permanent magnets to induce eddy-currents in the aluminum rail. If there is a loss in power or air pressure, the brakes will engage.



Elon Musk with the HyperXite pod at Competition Weekend I

The HyperXite team with our pod on the external subtrack at Competition Weekend I



### TIMELINE



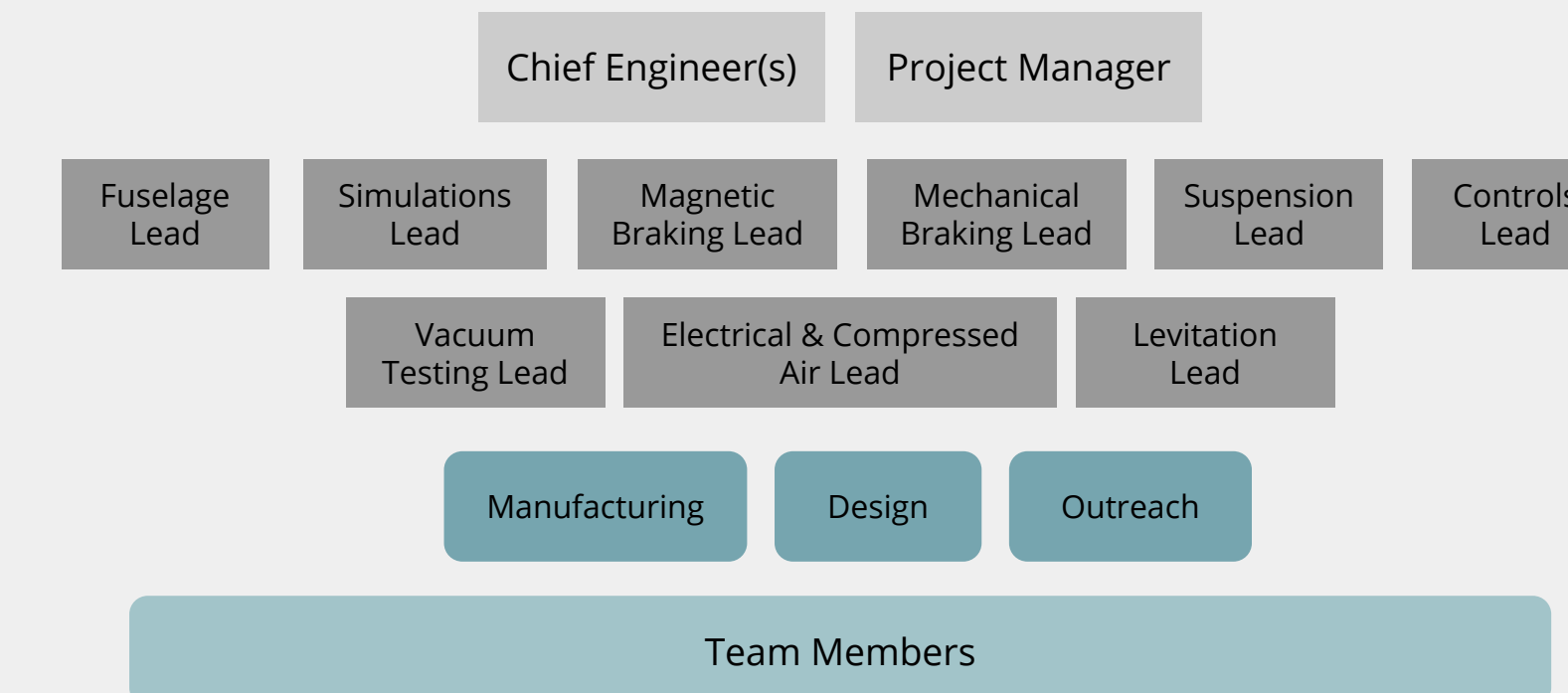
### TEAM PHOTO



### TEAM MEMBERS

- Adith Narayan Shankar ■ Ana Dominguez ■ Arash Asgarinejad  
 Anthony Long ■ Arjuna Ravisha Rathnayake Mudiyanse ■ Arwa Tizani  
 Bander Linjawi ■ Brian O'Sullivan ■ Charleston Tran ■ Chris Lan  
 Christian Aboga-a ■ Clayton Younkens ■ Colton Christiansen  
 Devin Pozas ■ Jasmine Cordero ■ Jason Kwon ■ Kamran Sadaghiani  
 Kevin Gonzalez ■ Khaled Takwa ■ Leslie Hsiao ■ Mackenzie Puig-Hall  
 Maddy Sando ■ Maral Abbasini ■ Mossab Khalid A Alsaedi ■ Nathan  
 Sharifrazi ■ Navpreet Singh Plaha ■ Nick Parks ■ Patricio Guerrero  
 Patrick Chung ■ Peter Sutliff ■ Robert Chavez ■ Steve Cho  
 Takahiro Ishikawa ■ Wesley Hsiao ■ William Conner Farrell  
 Woo Yoong Chong ■ Zachary Rawlings

### TEAM ORGANIZATION



### ADVISORS

**Primary Advisor:** Roger Rangel **Advisors:** Jack Brouwer, Kenneth Mease, Mahshid Fardadi, Khalid Rafique, Lorenzo Valdevit, Farzin Zareian, Manuel Gamero, Daniel Mumm, James Bobrow