



IEEE FOOTHILL

JUNE MONTHLY NEWSLETTER

IEEE Foothill June ExCom/OpCom Monthly Meeting

Prepared by: Max Cherubin | Proofread by: Prof. Gerald Herder

The IEEE Foothill June ExCom/OpCom hybrid meeting was held at DeVry University in Ontario and via BlueJeans. The meeting started at 7:13 pm with a chairman's remark. The chair discussed about the section rebate from MGA and reviewed the L31 reports. He also asked the section if there were any active volunteers who are celebrating their birthdays so the section can give the \$25 birthday card.

Section and Committee

Membership Development, we have 875 members, and 29 have been added last month. 5 Member Grades, 24 students, and graduate students.

We don't have any social media updates since Osman Ceylan, our vice-chair, is at IMS 2023. But we want to remind the section to keep updating their events and activity on our section page on Facebook and LinkedIn.

Student Chapter

For the students chapter, only CSUSB and DeVry University were able to give us an update since the Summer break just kicked-off.

Ivan Magana from CSUSB said that they have a new chair. He was supposed to introduce her to us, but she wasn't able to attend the meeting.

DeVry University, reported by Prof. Moe Saouli, said they had their monthly workshop. It was about the Introduction to Neural Networks and Deep Learning. It talks about deep learning or a subfield of machine learning, and it deals with Algorithms and that the structure of the function of the brain inspires it.

...continue to next page

What's Inside:

June ExCom/OpCom Monthly Meeting

page 1-2

DeVry: Intro to Neural Networks and Deep Learning

page 2-3

IEEE NTC: Pilot Robotics Competition

page 3-4

Upcoming Events

page 4

This newsletter is brought to you by:



Happy Pride Month



Pilot Robotics Competition (Hyperloop-Mini) a Success with Student Groups

Hyperloop-Mini Robotics Competition, Spring 2023

Shared by: Christopher Lai

Introduction:

For the past 6 months, the CPP Hyperloop Club launched a pilot program known as the Hyperloop-Mini Competition. This event was a small-scale robotics competition with the goal of engineering a low-cost, low-form vehicle capable of traveling as fast as possible on a monorail-style track. Students received guidance from the lead members of Hyperloop as well as a template kit to get them started on building their robot (see **Figure 1**).

Five student groups participated in the event, with each team's end goal being to participate in the IEEE SETC (Student Engineering Team Competition) 2023 event hosted by the IEEE NTC Foothill section. A combination of college students and select high school students through the entries to the project. The project requires (see **Appendix [1]**) led students through the engineering design process. Students must submit an abstract, a design document listing the process of their work, a bill of materials, a Gantt chart, and a presentation. This process assists students with only developing their technical skills in the project but also their soft skills. In the end, these students were able to present their work to the IEEE SETC judging panel in order to allow experienced researchers to provide advice on their work.

The project provides students with an overall introduction to robotics. Students who come out of the project will learn the basics of mechanical, electrical, and computer engineering skills. Throughout the 12 weeks of the project, students learn 3D modeling, manufacturing from 3D printers and simple CNC machines, basic circuit construction, embedded programming, sensor programming, and wireless transmission technology skills. The skills used in the competition are directly parallel with those taught in the CPP Hyperloop and IEEE NTC workshop (see **Appendix [2]**). This ensures that students attending the workshop series will have an upper hand in learning the required skills needed to build their high-speed robot.

The Competition:

On April 28th, 2023, the Hyperloop teams launched the very first Hyperloop-Mini competition in the Engineering Meadow of the Cal Poly Pomona. To prepare for this event, 72 pieces of track were 3D printed and produced. The track, which resembled an I-beam, laid out on the ground to be 50 feet long and had an endcap that allowed the robots to autonomously stop using a distance sensor (as stated in the rules). Students and spectators from the CPP Robotics Club had fun watching the robots travel across the beam. The template kit that students used for the event were not fast by any means, clocking in at 2 feet per second. However, the success of the pods being able to drive showed us that there was potential in the event for other students to modify the pods with better and faster motors for future events.

...continue to next page

Images:

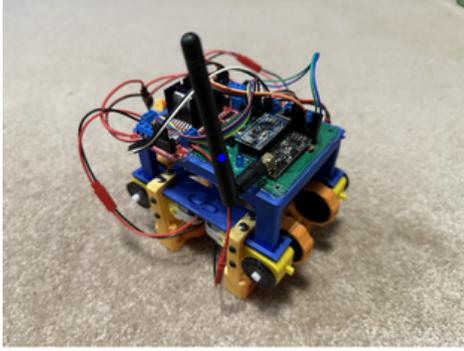


Figure 1: Prototype of a miniature high-speed robotic vehicle

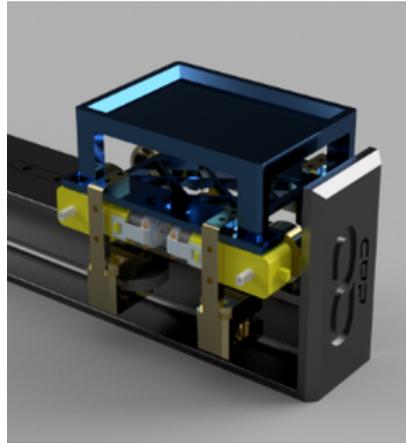


Figure 2: 3D model of the chassis of vehicle produced by lead of Hyperloop

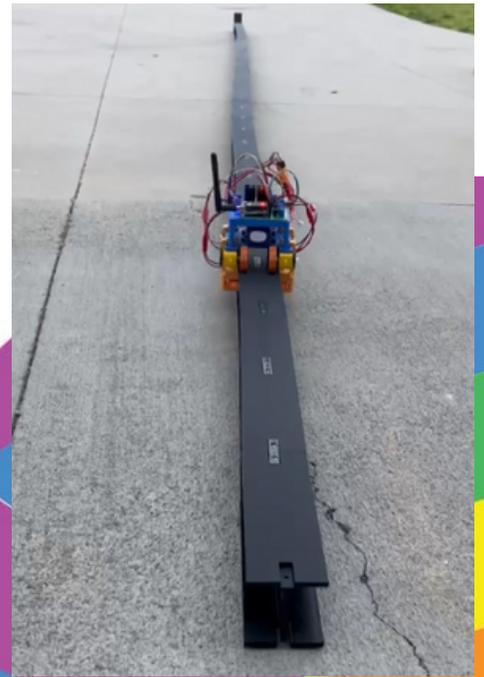


Figure 3: Pod traveling on track during Mini-Hyperloop Competition

"The IEEE Foothill Section respects gender equality and celebrates pride month with our LBTQ+ community."

#LOVEWINS!



Here in IEEE Foothill Section, we welcome volunteers with pride. If you want to be part of our growing community, you can email us at sec.foothill@ieee.org.



UPCOMING EVENTS:

IEEE July ExCom/Op Monthly Hybrid Meeting
July 11, 2023

IEEE Consultants Network Monthly Hybrid Meeting
July 05, 2023

IEEE Foothill PES: Grid Modeling Challenge for Data-Driven Research Studies
June 30, 2023



Social Media:

Find us on 

<https://www.facebook.com/ieeefoothill>

Find us on 

<https://www.linkedin.com/groups/13516173/>