Published September 30th, 2020

Moraga middle school student named finalist in STEM competition

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Broadcom Foundation and Society for Science & the Public recently announced 30 finalists - one from Joaquin Moraga Intermediate School in Moraga - in its 10th annual Broadcom MASTERS, the nation's premier Science, Technology, Engineering and Mathematics middle school competition.

According to Broadcom Foundation, the project for JMIS student Lucas Katz, 13, was called "A Spherical Omnidirectional Motor for Electric Vehicles." The project background information noted that in 2017, Goodyear Tire & Rubber announced a new concept for an automobile tire. It's shaped like a sphere, instead of a donut, and would work on a car that can move in all directions. Lucas talked to someone with Goodyear and learned that the tire was only a concept. "Goodyear is trying to inspire others to build the motor" that would work it, he explains. Lucas had independently been thinking about making a motorized skateboard. His model would have one spherical tire propelled by a motor. He had also seen a YouTube video about a ballpoint pen with a weight-transfer bearing. Those ideas led him to design a motor that could work for Goodyear's concept tire or his idea for a skateboard.

The finalists will compete in the first ever Virtual Broadcom MASTERS Oct. 16-21 where they will participate in a rigorous virtual competition that leverages project-based learning to test and demonstrate their mastery of 21st century skills of critical thinking, communication, creativity and collaboration in each of the STEM areas. The finalists' projects focus on a variety of topics, including: using machine learning to predict the growth of wildfires and COVID-19; quantifying gerrymandering and creating an algorithm to create fair political districts; using artificial intelligence to sort recycling; determining if turmeric is contaminated with lead chromate; and using artificial intelligence to predict diabetic eye diseases.

A full list of the finalists can be viewed here:
https://www.societyforscience.org/broadcom-masters/2020-finalists/

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