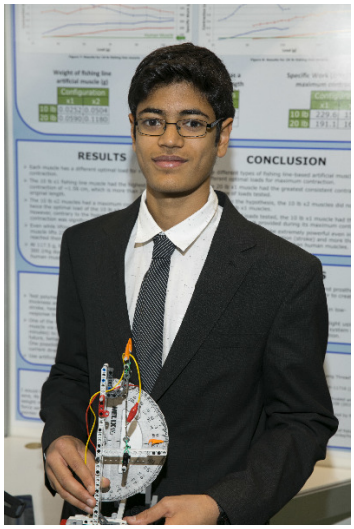
CWSF 2017 - Regina, Saskatchewan



Vedaant Srivastava

An Effective Artificial Muscle

Challenge: Discovery
Category: Junior
Region: Ottawa
City: Ottawa, ON
School: Cedarview M.S.
Abstract: This project explored the feasibility of making effective artificial muscles for robotics and prosthetics using cheap off-the-shelf components. The muscles were constructed using different types of nylon fishing lines and tested using a custom setup. It was determined that these artificial muscles could contract by about 20% of their original length, and were up to 7 times more powerful than human muscles of similar weight.

Biography

Hello, my name is Vedaant Srivastava and I am a grade eight student attending Cedarview M.S. in Ottawa. In school, I enjoy music and play lead trombone in our school's jazz band. I am also involved in many activities outside of school such as running, competitive soccer, and tabla(an Indian drum) classes. I am always keen to learn new things and expand my knowledge of whatever intrigues me. Interestingly enough, my project about an artificial muscle simply started as something I read about in the internet that was interesting; that coiled fishing lines could contract when heated. These muscle are lightweight, more powerful than human muscles, and could be made at home using materials available at local stores. I had no idea what my project would entail. There is so much more to be tested in this vast field that my project investigates: the temperature efficiency of these artificial muscles, different materials, and different heating elements among others. My advice to others thinking about a science project is to do your project on something unique, and do it on something you can just talk about.

Awards	Value
Excellence Award - Junior - Silver Medal Sponsor: Youth Science Canada	
Western University Scholarship Silver Medallist - $2000 Entrance Scholarship Sponsor: Western University	$2 000
Total	$2 000