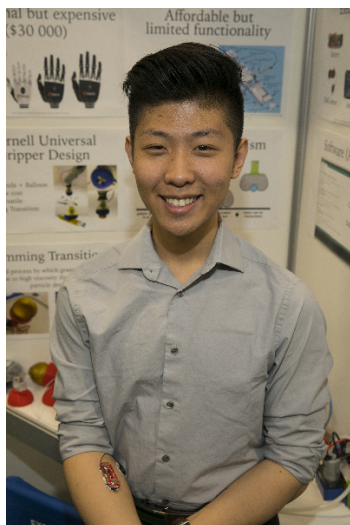


CWSF 2017 - Regina, Saskatchewan



Bilun Sun

Need a hand with that?

Challenge: Innovation

Category: Senior

Region: Montreal

City: Saint-Laurent, QC

School: Collège Marianopolis

Abstract: My project is a muscle-controlled, 3D printed prosthetic hand for people with upper limb loss. However, it does not look anything like a human hand; rather, it features a gripper made with a balloon and coffee grounds, which allows the prosthesis to adapt to practically any object the user wants to pick up. The hand is thus both affordable and extremely versatile

Biography

I live and breathe robotics! As the captain of the Marianopolis Robotics Team, I am leading a group of 25 members to participate in the multidisciplinary Canadian Robotics Competition. I am also helping students with calculus as part of the peer tutoring program at my college. In addition to my passion for robotics, I have an artistic side as well: I love music, calligraphy, photography, and more. Next year, I will study in the Honours Mechatronics Engineering with Co-op program at Waterloo University, which combines mechanical, electrical and software engineering. At the Montreal Regional Science and Technology Fair this year, I received the Concordia University Award for Outstanding Achievement in Computer Science & Software Engineering, as well as the privilege of participating in the Super Expo-sciences Provincial Finals, where I was awarded the IEEE Canadian Foundation Québec Science Fair Prize, and the honour of moving onto the Canada-Wide Science Fair. My project is a 3D-printed and muscle-controlled prosthetic hand that was inspired by the Cornell universal gripper, which uses... a balloon and coffee grounds. It is versatile, low-cost, and easily reproducible, to help people missing a hand to regain their autonomy without breaking the bank.

Awards

Value

Excellence Award - Senior - Silver Medal Sponsor: Youth Science Canada	
Dalhousie University Faculty of Science Entrance Scholarship Senior Silver Medallist - \$2500 Entrance Scholarship Sponsor: Dalhousie University, Faculty of Science	\$2 500
UBC Science (Vancouver) Entrance Award Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: The University of British Columbia (Vancouver)	\$2 000
University of Ottawa Entrance Scholarship Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: University of Ottawa	\$2 000
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
Total	\$8 500