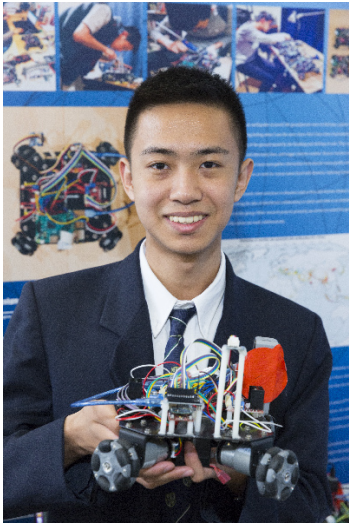


CWSF 2018 - Ottawa, Ontario



Albert Yang

Control for Groups of Robots - Collaborative Search and Rescue

Challenge: Innovation

Category: Senior

Region: Vancouver Island

City: Vancouver, BC

School: Glenlyon Norfolk School

Abstract: In this project, I designed a group of robots to do collaborative search and rescue in ruins caused by natural disasters or in extreme environments. The robots can communicate and make decisions independently, dividing a rescue mission into sub-missions for everyone in the group. Once the target is found, the robot will send a message to inform others that the mission has been completed.

Biography

I am a grade 11 student at Glenlyon Norfolk School in Victoria, BC. I initially developed my interest in robotics in my childhood. I remember my mother buying me some Lego when I was 4, and since then robotics has become my passion. Robotics has provided me so much happiness. As I grew older, I have started learning about more complicated robots. On May 12th, 2008, a moment that I would never forget, was when the first great Wenchuan earthquake occurred. My grandparents were in Sichuan, a place very near to the epicenter of the earthquake. I remembered the suffocating feeling when I first saw the news, where rescuers were working as groups in the hazardous environment, trying their best to save more victims. I thought if robots could do the job for humans, both safety and efficiency of completing the task could be significantly increased. I plan to do further investigations on optimizing the algorithms for the robot group to increase their analytical abilities in changing environments. Doing a project requires ones' passion and perseverance. Be bold and creative. Believe in yourself and do what you love.

Awards

Value

Excellence Award - Senior - Bronze Medal Sponsor: Youth Science Canada	
Carleton University Entrance Award Senior Bronze Medallist - \$1,000 Entrance Award Sponsor: Carleton University	\$1 000
University of Ottawa Entrance Scholarship Senior Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Ottawa	\$1 000
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
Total	\$3 000