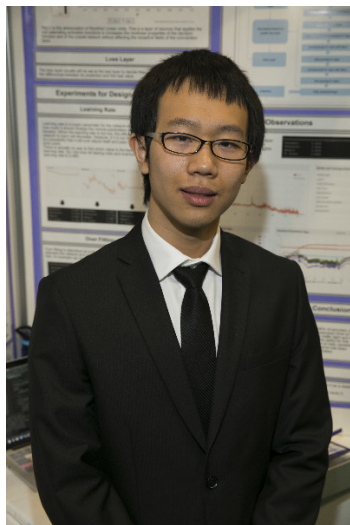


CWSF 2017 - Regina, Saskatchewan



Ben Xie

A Computerized Traffic Light Detector

Challenge: Innovation

Category: Senior

Region: Simcoe County

City: Collingwood, ON

School: Pretty River Academy

Abstract: This science fair project involved the development of computer algorithms that use deep learning and a convolutional neural network to analyze pictures from automobile data recorders. This computer program detects a traffic light and determines its color, in order to assist drivers who are color blind. It can also be used as a sensor for a self-driving car.

Biography

I am a student currently studying at Pretty River Academy who is interested in physics, engineering and origami. In my spare time, I work on projects that allow me to learn new skills and concepts. My project for the CWSF is inspired by a member of my home stay family. He complains about the difficulty of determining the color of traffic lights, because he is colorblind. So I decided to develop a traffic light detector. I wanted a program that could help colorblind people identify traffic light color while they are driving by using deep learning and convolutional neural network technology. Currently, I have been accepted to the physics program at UCD, which is well known for their background in the rules and laws of the universe, and their development of new technologies in this field. It is my first time at CWSF, and I am really looking forward to meeting the brilliant minds there!

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