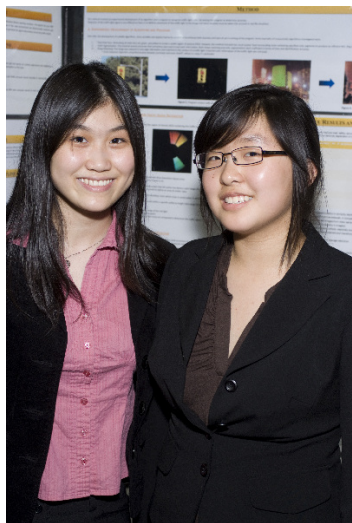


# CWSF 2009 - Winnipeg, Manitoba



## Jiun Yiing Hu, Rosie Zhang

### Digital Traffic Signal Recognition System: Saving Lives

**Division:** Health Sciences / None

**Category:** Senior

**Region:** Toronto

**City:** Toronto, ON

**School:** Marc Garneau Collegiate

**Abstract:** A digital traffic recognition system is designed to aid color vision deficient or inattentive drivers averting accidents. The system has over 95% accuracy up to a 150m distance. Color and edge information from digital images of the road environment are electronically matched with embedded data. After defining regions of interest, color pixel comparison is used to perceive the signal and produce visual and audio output.

#### Biographies

Jiun Yiing - Jiun-Yiing Hu is a Grade 11 student from the TOPS program at Marc Garneau Collegiate Institute in Toronto. She won a Silver medal and the MDS International Award for Outstanding Achievement and Innovation in Science in the Toronto Sci-Tech Fair 2007. She ranks highly in various math competitions hosted by the University of Waterloo and IAMS. She is proficient in C++, Pascal, HTML and Photoshop. Apart from her passions in Math and Science, she contributes to her community. She has worked as a Music Therapy Assistant at Baycrest Geriatric Centre as well as held several fundraisers in affiliation with Sick Kids Hospital, and the Canadian Cancer...

Rosie - Keen interest in mathematics and sciences. Currently enrolled in Talented Offerings for Programs in the Sciences (enriched academic program with focus in science and mathematics). Achieved gold standards in waterloo mathematic competitions. Enjoys music composition and performance, especially take pleasure in playing pieces with friends. RCM grade 10 pianist, first flautist in school band. Assists in teaching young children piano part time. Side interest in visual and digital arts. Gold medalist for Skills Canada competition in graphic design; winner of Robert Bateman fine arts contest; finalist for Infomatrix International Competition (web d...

#### Awards

#### Value

The University of Western Ontario Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Western Ontario	\$1 000
University of Ottawa Entrance Scholarship Senior Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Ottawa	\$1 000
Bronze Medal - Engineering - Senior Sponsor: Youth Science Canada	\$300
<b>Total</b>	<b>\$2 300</b>