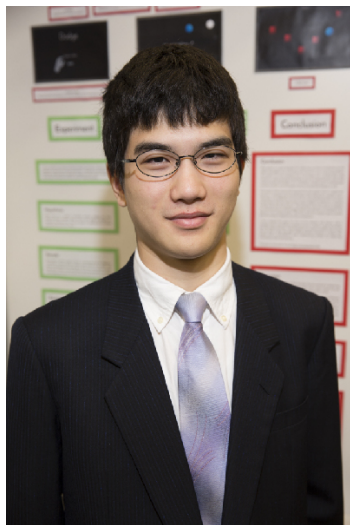


# CWSF 2016 - Montreal, Quebec



## Emerson Hsieh

### A Computer Game Aimed at Improving Eye-hand Coordination for the Elderly

**Challenge:** Innovation

**Category:** Senior

**Region:** South Fraser

**City:** Surrey, BC

**School:** Semiahmoo Secondary

**Abstract:** Eye-hand coordination, an important skill in our everyday lives, decreases with age. I created a motion-sensor controlled action video game aimed at improving eye-hand coordination for the elderly. The game is entirely controlled with hand gestures and is designed to be intuitive and accessible. I performed a study with the elderly, which shows an increase in eye-hand coordination performance after playing the game.

#### Biography

My name is Emerson Hsieh and I am from Surrey, British Columbia. At school, I enjoy math, physics, and history. Outside of school, my favorite activity is programming. I started programming in grade 6 and since then I have published three apps and started several personal projects. I also play the violin in my free time. I was first introduced to the term "eye-hand coordination" in physical education. Eye-hand coordination is an integral part of our lives that decreases with age. Because it is so important, eye-hand coordination loss can have a great impact on the lives of the elderly. I was inspired by the rapidly-aging population in countries such as Canada. For my science fair project, I created a motion-controlled computer game aimed at improving eye-hand coordination for the elderly and performed an experiment that yielded positive results. I plan to conduct long-term studies with longer follow-up periods with my project. If I could give one piece of advice, it would be to work hard. There would always be trying times where there seems to be no solution, and sometimes the best way out would be to persevere and work harder.

#### 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
<b>Total</b>	<b>\$8 500</b>