

# CWSF 2016 - Montreal, Quebec



## Derek Yin, Himanshu Sharma

### E-Walker: Formulating a Faster and Safer Stroke Recovery with Digital Sensors

**Challenge:** Innovation

**Category:** Senior

**Region:** Manitoba Schools Science Symposium

**City:** Winnipeg, MB

**School:** Fort Richmond Collegiate

**Abstract:** The E-Walker is a digital system with various digital sensors that attaches on medical walkers that speed up stroke recovery. These digital sensors collect data such as distance, speed and frequency of leaning and patients can receive feedback on their performance with a wirelessly paired smartphone app. A fall detection system is also incorporated on the E-Walker providing a safer environment for patients.

#### Biographies

Derek - My name is Derek Yin, I'm 17 years old and I attend Fort Richmond Collegiate in Winnipeg, Manitoba. I am most passionate about technology and engineering but other science subjects and math interests me also. I am part of my school's High Altitude Balloon project which recently became a finalist in the Samsung solve for tomorrow challenge and also an amateur Android developer. The inspiration for my project came from my grandpa who unfortunately had a stroke and as a curious problem solver, I'd started pondering how can technology provide a better tool for stroke rehabilitation. After researching, such device didn't really exist which results...

Himanshu - My name is Himanshu Sharma, I am 16 years old and was born in India and currently going to school at Fort Richmond collegiate in Winnipeg, Manitoba. During my early childhood I was an average kid. This was changed when I saw a computer at a friend's house. My uncle worked with computers so he was able to get me one, I was very excited to have a computer in our house and it was rare to have one. I was fascinated by it, and that computer was the reason I am passionate about technology to this day. Later on when I turned 10 my family moved to Canada. Here I started using the web to answer any questions I have ever had, I started to learn more ...

#### Awards

#### Value

The Manning Innovation Achievement Award - Senior Sponsor: Ernest C. Manning Awards Foundation	\$500
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>\$9 000</b>