

# CWSF 2019 - Fredericton, New Brunswick



## Abdalrahman Tawhid

### Extensive Development of Statistical Models to Predict Future Health Care Trends

**Challenge:** Innovation

**Category:** Senior

**Region:** Cariboo Mainline

**City:** Kamloops, BC

**School:** Sa-hali Secondary

**Abstract:** As chronic disease develops and more people are afflicted with a disease, we will see a huge increase in health resource consumption. This project utilizes machine learning methods to create statistical models that allow us to predict with a high accuracy the number of Diabetic patients that will be affected with diabetes, how many will then visit the hospital, general and specialist physicians.

#### Biography

Abd-alrahman Tawhid is in grade 12. My interest is solving real life applications based on health and computer. I like to explore and dig in problems regardless the time spent. I've anticipated in Science Fair since 2011. I was a co-investigator for a project on using solar energy for cooking and entered it in 2011. Another project was using a Raspberry Pi to measure the temperature inside home and controlling it outside your home. I also designed an app to cut the bill of electricity at home. I decided to focus on the health industry this year, in finding a solution to fighting Chronic Disease. I used the field of Data Mining in working with a dataset provided from the Public health Agency of Canada, and came up with predictive models to predict early stages of a certain disease or features of a disease, and put it in an app. A long term for this project is to extend this app from residential to industry. It is important to select a project that will be useful to our real life problems, it is essential that you continue in the project to enhance it as much as you can.

#### Awards

#### Value

Statistical Society of Canada Award - Senior Sponsor: Statistical Society of Canada	\$1 000
Excellence Award - Senior - Bronze Medal Sponsor: Youth Science Canada	
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
<b>Total</b>	<b>\$3 000</b>