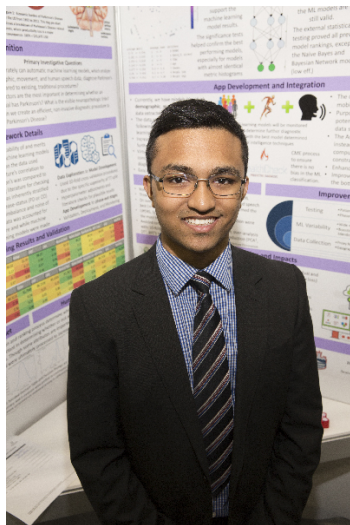


# CWSF 2019 - Fredericton, New Brunswick



## Shounak Ray

### A Predictive Diagnosis for Parkinson's Disease Through Machine Learning

**Challenge:** Innovation

**Category:** Senior

**Region:** Calgary Youth

**City:** Calgary, AB

**School:** Webber Academy

**Abstract:** There is significant financial and emotional loss associated with Parkinson's disease, which currently has a misdiagnosis rate of over 30%. A more efficient and accurate ML-based approach was developed, with approximately 97% accuracy, via analyzing demographic, movement, and speech data. This new diagnostic tool was developed into a JAVA-based application, which has the potential to be integrated into a clinical/medical environment in the near future.

#### Biography

Hello! My name is Shounak Ray, a grade 11 student at Webber Academy, Calgary. I am keen to learn almost anything about science and have participated in the regional science fair since grade 7. Excited about developments in machine learning, artificial intelligence, and health science, I am now working to use data analytics to diagnose neurological diseases. I have applied my expertise and enthusiasm in these fields in other areas like the Sanofi BioGENIUS competition and SAS Big Data Challenge, participating at the national level both times. I also love to debate and participate in business case competitions. Excited about a wide range of scientific developments, I believe that the Canada Wide Science Fair will be an amazing opportunity for discovery and discussion as I meet individuals who share similar passions and strive to make a difference in the world they live in.

#### Awards

#### Value

Awards	Value
Ted Rogers Innovation Awards - All categories Sponsor: Rogers Communications Inc.	\$2 000
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 New Brunswick Canada-Wide Science Fair Scholarship Silver Medallist - \$2500 Entrance Scholarship Sponsor: University of New Brunswick	\$2 500
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
Youth Can Innovate Awards - Senior Sponsor: The Gwyn Morgan and Patricia Trottier Foundation	\$1 000
Youth Can Innovate Awards - Senior Sponsor: The Gwyn Morgan and Patricia Trottier Foundation	\$7 000
<b>Total</b>	<b>\$21 000</b>