



CWSF 2015 - Fredericton, New Brunswick



Dan Alferov

Using the Perception of Facial Emotions to Aid in Diagnosis of Mood Disorders

Challenge: Discovery Category: Senior

Region: Thames Valley
City: London, ON
School: A.B. Lucas S.S.

Abstract: Mental illness affects 1.8 billion people globally (WHO, 2013). Yet, 30% of

patients are misdiagnosed or underdiagnosed. The goal of this project was to create a novel, objective and efficient diagnostic method for mood disorders, based around disorder-specific facial emotion perception deficits. A universal trend in the perception of facial emotions within binocular rivalry

for healthy participants was discovered which can aid in differential

diagnosis.

Biography

I am a grade 12 student at A.B. Lucas Secondary School; I am heavily involved in volunteer work, research and competitions. I have been doing research as a volunteer at the Brain and Mind Institute at Western University for 4 years. I've always been interested in cognitive psychology and the opportunity to do high level research so early in my high school career has been amazing! This year my project was inspired by the anxiety and minor depression faced by my peers in a challenging final year. Doing research on the diagnosis of mental illness opened my eyes to the challenges faced by clinicians. As a result, I was inspired to use my knowledge of visual perception to try to create a supplementary test which could help to confirm a diagnosis. In the future, I would like to continue testing patients with a variety of mood disorders, in an attempt to investigate disorder specific results. My advice to anyone pursuing science fair would be to follow your passion. To me science fair is much more than a competition it represents my curiosity, fuels my passion and sustains my drive.

| Awards | Value |
|---|----------|
| The Manning Innovation Achievement Award - Senior | \$500 |
| Sponsor: Ernest C. Manning Awards Foundation | |
| The Manning Innovation Achievement Award | \$4 000 |
| and \$4000 Manning Young Canadian Innovation Award and also receive | |
| an additional \$3000 towards their post-secondary education. | |
| Sponsor: Ernest C. Manning Awards Foundation | |
| Challenge Award - Discovery - Senior | |
| Sponsor: Youth Science Canada | |
| Excellence Award - Senior - Gold Medal | \$250 |
| Sponsor: Youth Science Canada | |
| Dalhousie University Faculty of Science Entrance Scholarship | \$5 000 |
| Senior Gold Medallist - \$5000 Entrance Scholarship | |
| Sponsor: Dalhousie University, Faculty of Science | |
| UBC Science (Vancouver) Entrance Award | \$4 000 |
| Senior Gold Medallist - \$4000 Entrance Scholarship | |
| Sponsor: The University of British Columbia (Vancouver) | |
| University of Manitoba Entrance Scholarship | \$5 000 |
| Senior Gold Medallist - \$5000 Entrance Scholarship | |
| Sponsor: University of Manitoba | |
| University of New Brunswick Canada-Wide Science Fair Scholarship | \$5 000 |
| Gold Medallist - \$5000 Entrance Scholarship | |
| Sponsor: University of New Brunswick | |
| University of Ottawa Entrance Scholarship | \$4 000 |
| Senior Gold Medallist - \$4,000 Entrance Scholarship | |
| Sponsor: University of Ottawa | |
| Western University Scholarship | \$4 000 |
| Gold Medallist - \$4000 Entrance Scholarship | |
| Sponsor: Western University | 004 === |
| Total | \$31 750 |





