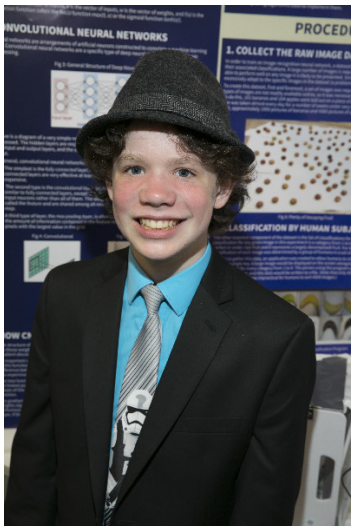
ESPC 2017 - Regina (Saskatchewan)



Brendon Matusch

Convolutional Neural Networks in Qualitative Quality Control Applications

Défi: Innovation
Catégorie: Intermédiaire
Région: Sudbury
Ville: Sudbury, ON
École: Lo-Ellen Park S.S.

Sommaire: This project is an experiment that compares the performance of convolutional neural networks (CNNs) and humans in qualitative quality control applications. The task of sorting fruit based on ripeness was used. A set of photographs of apples and bananas was taken and manually sorted. A CNN was trained on this dataset, and its accuracy was calculated and compared to that of the human volunteers.

Biographie
I am Brendon Matusch and I'm in grade 9 at Lo-Ellen Park Secondary School. My main hobby is programming. I've worked on a variety of projects, including a Minecraft mod that I have released, a procedurally generated 3D platformer, and an iOS app for garbage sorting with which I made it to last year's CWSF. I hope to go to the University of Waterloo for software engineering once I am finished high school. I was inspired to do a science fair project on neural networks when I saw two such projects at the CWSF last year. I was fascinated, and I've spent a lot of time since then learning about the subject. My research eventually led me to the idea for this year's project. Next year, I plan to do another project on neural networks, but not continue this one. I'm currently learning about recurrent neural networks, but keeping my options open. For other students who are considering making a science fair project next year, my advice would be to do something that you enjoy. It takes hard work to make it to the CWSF, and I think the reason I worked so hard was because I enjoy computer science.

Prix	Valeur
Prix d'excellence - Intermédiaire - Médaille d'argent Commanditaire: Sciences jeunesse Canada	
Bourse d'études de Western University Médaillé d'argent - Bourse d'admission de 2 000 $ Commanditaire: Université Western	2 000,00 $
Total	2 000,00 $