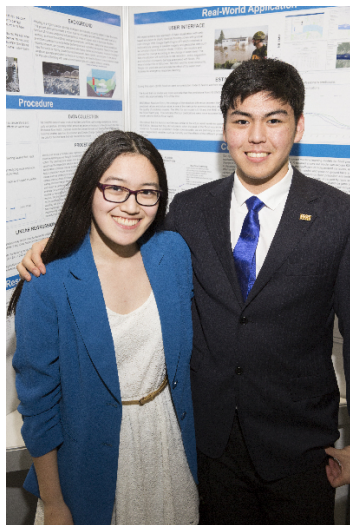


CWSF 2019 - Fredericton, New Brunswick



Cynthia Cui, Leonardo Cui

An Innovative Flood Prediction System Using Improved Machine Learning Approach

Challenge: Innovation

Category: Senior

Region: North-West New Brunswick

City: Fredericton, NB

School: Fredericton High School

Abstract: Flooding is a chaotic, common, and naturally occurring pattern in the spring of New Brunswick. Flood prediction is important for natural disaster prevention and helps risk reduction, policy suggestions, and reduction of property damage. Based on current research on flood prediction, this project integrates artificial intelligence, geographical information, and local environment features into an online application system specifically for spring flood predictions in Canada.

Biographies

Cynthia - Born and raised in Fredericton, New Brunswick, Cynthia is a grade 10 student at Fredericton High School where she's actively involved through the student council, TEDxFrederictonHigh, and in athletics with swimming and badminton. In her free time, Cynthia volunteers at her local science museum and enjoys rowing and playing the piano. As a former Canadian female junior chess champion who has represented Canada at international chess competitions, she helps run her local chess club to promote chess at schools and senior homes. She believes chess is beneficial in helping brain development for kids and seniors. Cynthia has always had a passion fo...

Leonardo - Leonardo Cui is a grade 11 student at FHS. Having grown up next to the Saint John river, he has experienced the devastating impacts of flooding. After attending SHAD in 2018, Leonardo was inspired to use artificial intelligence to address this issue. Together with his sister, they managed to create a prediction model to predict flood levels using AI. In addition to programming, Leonardo has passions for the sciences and technology and using it to improve the world. He volunteers at his local science museum and works in his school's tech crew. He rows at the Fredericton Rowing Club and is the current provincial champion in U17 fencing. Havin...

Awards

Value

Intact Climate Change Resilience Award - Senior Sponsor: Intact Financial Corporation	\$2 500
Total	\$2 500