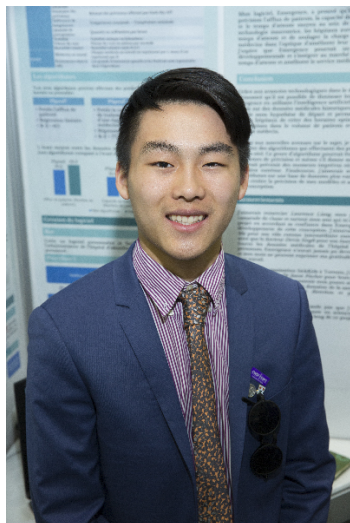# CWSF 2019 - Fredericton, New Brunswick

Stephen Lu

Emergence, une approche statistique pour optimiser la salle d'urgence

Challenge: Information
Category: Senior
Region: Montréal RM
City: Dollard-des-Ormeaux, QC
School: Collège Jean-de-Brébeuf

Abstract: En analysant des données médicales, j'ai utilisé des techniques de modélisation statistique pour créer trois algorithmes qui prédisent le flux de patients aux urgences. Grâce à ces algorithmes, j'ai construit Emergence, un logiciel qui optimise les horaires de la salle d'urgence en résolvant les déséquilibres entre la capacité de traitement des médecins et l'afflux de patients dans le but de diminuer les temps d'attente.

Biography

My name is Stephen Lu and I'm an 11th grade student currently studying at Collège Jean-de-Brébeuf in Montreal. Having developed a profound passion for computer science, I co-founded BrébeufCode, my school's very first programming club with the goal of initializing more students to this amazing domain. Through the tight collaboration with multiple non-profits and student organizations, BrébeufCode offers a variety of volunteer based projects to its members so that students can develop and apply their programming skills while having a positive impact on their communities. I started developing an interest for programming and artificial intelligence during my second year of high school after attending a hackathon organized by the Montreal bioinformatics group MonBug. To further my abilities in this area, I completed an internship in a bioinformatics lab at the University of Montreal. During this program, I studied evolutionary gene sequence homologs between species using integrated Hidden Markov models like HMMER and MUSCLE. Finally, I enjoy spending my time reading scientific publications as well as playing the piano, two activities where I often get my inspiration for future projects.

Awards

Awards	Value
The Actuarial Foundation of Canada Award - Senior Sponsor: The Actuarial Foundation of Canada	$1 000
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
Total	$20 000