

CWSF 2013 - Lethbridge, Alberta



Daniel Penner, Aaron Buckley

The Spots in the Lots

Challenge: Environment

Category: Senior

Region: Waterloo-Wellington

City: Waterloo, ON

School: Waterloo Collegiate Institute

Abstract: Increasing parking demands cause thousands of litres of gasoline to be burned by drivers trying to find a parking spot. We created a model predicting the hourly occupancy of parking lots, based on their surrounding features. By forecasting parking trends, drivers can be routed to the nearest parking lot that is likely to have available spots; thus greatly reducing wasted time and emissions.

Biographies

Daniel - I am a fifth year student at Waterloo Collegiate Institute. Both at school and in the community, I enjoy being very involved in extra-curricular activities. Some of my involvements include Student Council, leading school assemblies, coordinating environmental activities, and singing in a guys' acapella group. I also enjoy playing cello in my school's orchestra and singing in a choir. My athletic activities include being part of the football and ultimate frisbee teams. As well as my extra-curricular activities, I focus diligently on my studies. Next year I will be attending the University of Waterloo, likely for Systems Design Engineering....

Aaron - My name is Aaron Buckley and I am a graduating student at Waterloo Collegiate Institute in Waterloo, Ontario. I will be attending University of Waterloo next year for the Knowledge Integration program, where I will pursue my dream career of crisis mapping, a field of geography that uses mathematical modelling and mapping to plan responses to natural and political disasters like earthquakes and genocides. The inspiration for my project, cutting 9000 tonnes of parking-related carbon dioxide emissions/year by modelling parking trends in metropolitan areas with 92% accuracy and creating a mapping application that can reroute drivers to emptier par...

Awards

Value

Excellence Award - Senior - Silver Medal Sponsor: Youth Science Canada	\$300
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 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
Total	\$8 800