



CWSF 2009 - Winnipeg, Manitoba



Jason Lin, Manuel Ung

A Different Look at Perceptrons

Division: Earth & Environmental Sciences

Category: Senior

Region: Greater Vancouver

City: Vancouver, BC, Richmond, BC School: Sir Winston Churchill Secondary

Abstract: A perceptron is a linear classifier that learns to differentiate between two

data sets by making guesses and corrections. Its algorithm is linear, and classifying non linear data sets would require multilayering nodes or though other mathematical manipulations. This project generalizes the algorithm to a general quadratic and compares the classic backpropagating error

method with our quadratic method.

Biographies

Jason - I'm a grade 11 International Baccalaureate Year One student at Sir Winston Churchill. I've been interested in science for as long as I could remember. I have written numerous math and science competitions, and enjoyed some of them very much. At school, I'm an editor for the school's science magazine, a dissection club executive, a member of debate club, and a player for Reach for the Top. I enjoy reading, solving puzzles, and playing Ultimate Frisbee. I plan on studying science or mathematics upon entering a post-secondary institution. Manuel - I am a Grade 11 student currently attending Sir Winston Churchill Secondary School. I am interested in math, programming and cybernetics. I am a member of the local First Responders team.

Awards	Value
Dalhousie University Faculty of Science Entrance Scholarship	\$2 000
Senior Silver Medallist - \$2000 Entrance Scholarship	
Sponsor: Dalhousie University, Faculty of Science	
UBC Science (Vancouver) Entrance Award	\$2 000
Senior Silver Medallist - \$2000 Entrance Scholarship	
Sponsor: The University of British Columbia (Vancouver)	
The University of Western Ontario Scholarship	\$1 500
Silver Medallist - \$1500 Entrance Scholarship	
Sponsor: University of Western Ontario	
University of Ottawa Entrance Scholarship	\$3 000
Senior Silver Medallist - \$3000 Entrance Scholarship	·
Sponsor: University of Ottawa	
Silver Medal - Computing & Information Technology - Senior	\$700
Sponsor: Intel of Canada, Ltd.	
Total	\$9 200



