

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