CWSF 2007 - Truro, Nova Scotia

Michael Smith

Shortcut Connections in Artificial Neural Networks

Division: Earth & Environmental Sciences / None
Category: Intermediate
Region: Calgary Youth
City: Cochrane, AB
School: Cochrane High School

Abstract: This project was a study of whether short-cut connections improve the efficiency of Neural Networks. These are programs that attempt to learn patterns in data and to generalize from them. The idea of short-cut is relatively unexplored, as it breaks the traditional layered architecture. These shortcut connections proved beneficial, reducing the time spent training and the amount of computations done by the computer.

Biography

I was born in Calgary, and raised on an acreage nearby. When I was five, my family moved to Puerto Vallarta, Mexico, where I was schooled almost exclusively in Spanish. After nearly seven years, we returned to Canada. I currently live in Cochrane, Alberta, with both my parents and a younger brother. I am attending grade 10 at Cochrane High School where I am a member of the Sustainable Development Committee and the Debate Club. This year I won my second gold medal out of two years at the Calgary Youth Science Fair, but it is my first visit to the nationals. Also this year I was best in my school for the Cayley math competition. In 2005, I won best in my school for a Scholastic Challenge competition. After High School, I hope to study Engineering, Neuroscience or Physics. My personal interests include math, science, photography, film-making and nearly anything to do with computers.

Awards	Value
The University of Western Ontario Scholarship Silver Medallist - $1500 Entrance Scholarship Sponsor: University of Western Ontario	$1 500
Silver Medal - Computing & Information Technology - Intermediate Sponsor: Intel of Canada, Ltd.	$700
Total	$2 200