

# CWSF 2011 - Toronto, Ontario



## Atulya Madhavan

### Optic Disc Drusen Detection

**Challenge:** Innovation

**Category:** Intermediate

**Region:** Calgary Youth

**City:** Calgary, AB

**School:** Sir Winston Churchill High School

**Abstract:** The aim of my project is to create an algorithm to detect optic disc drusen (ODD) in the eye. This should assist ophthalmologists by creating a priority list of patient images to verify and enable faster treatment administration. The algorithm uses several spatial domain filters implemented in Matlab to flag the image as ODD positive or negative. Testing shows favourable results for the algorithm.

#### Biography

Atulya Madhavan has been described as "the smartest 10th grader at Sir Winston Churchill high school" mainly by himself. Estimates suggest he has spent over ten thousand hours reading Harry Potter books and has single handedly kept the publishing industry afloat through the 2009 recession. He is best known for boring people with his conversation on "mathematical algorithms" and is the only one who understands Maxwell's equation. He is also thought to be the greatest soccer player and cricket player in Calgary by literally one person. He intends to become the world's greatest ophthalmologist someday. Atulya has never heard a 'Justin Bieber' song.

#### Awards

#### Value

Excellence Award - Intermediate - Bronze Medal Sponsor: Youth Science Canada	\$300
The University of Western Ontario Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Western Ontario	\$1 000
<b>Total</b>	<b>\$1 300</b>