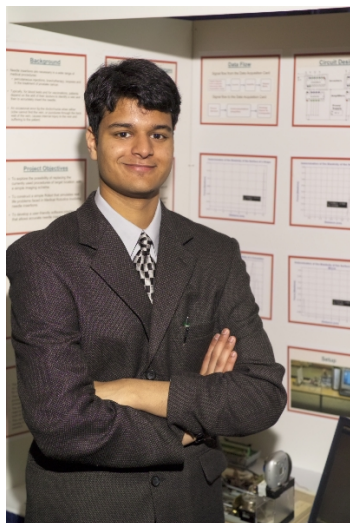


## CWSF 2005 - Vancouver, British Columbia



### Sarvesh Varma

#### Image Guided Robotic Needle Insertion

**Division:** Engineering & Computing Sciences

**Category:** Senior

**Region:** London District

**City:** London, ON

**School:** A.B. LUCAS SECONDARY SCHOOL

**Abstract:** A robot has been developed that locates a target for needle insertion using digital camera image processing. It analyzes forces acting on the needle during the insertion, providing a controlled motion that avoids unwanted tissue ruptures. This technology can be utilized in brachytherapy, biopsies and the treatment of prostate cancer.

| Awards                                    | Value |
|-------------------------------------------|-------|
| Honourable Mention - Engineering - Senior | \$100 |
| Sponsor: Youth Science Foundation Canada  |       |
| Total                                     | \$100 |