Matthew Sampson

The Scholar's 3-D Printer

Challenge: Innovation
Category: Senior
Region: Strait
City: Antigonish, NS
School: Dr. John Hugh Gillis Regional School

Abstract: The Scholar's 3-D printer is a portable, upgradeable, customizable, easy to fix and open source 3-D printer. It was designed and constructed for a university student who is living in a residence where the lack of space and proper ventilation makes owning and using a 3-D printer difficult.

Biography

My name is Matthew Sampson and I was born February 3, 1997 in Iqaluit, Nunavut. I am a grade 12 IB Student who is planning to attend Engineering at UNB Fredericton. I am captain of my high school's varsity basketball team. Having been interested in electronics and their inner workings from a young age, I decided to embark on an attempt at building my own robotic arm with OpenCV image processing. After obtaining all the electronics, planning my code, and designing the body, I realized that the uncommon and complex shapes required to complete the project would have been impossible to fabricate by hand. Instead I had to look for alternative methods, the most favorable being to 3D print the uncommon figures. This realization initiated my interest in 3D printers. However, as a result of my expected attendance at UNB in the upcoming years, I needed a printer that was portable, capable of printing in confined areas with minimal ventilation (I will be living in residence), and could be fixed inexpensively. After researching 3D printers I realized there was nothing commercially available to meet my needs. This sparked my inspiration to create the Scholar's 3D Printer.

Awards	Value
Excellence Award - Senior - Bronze Medal Sponsor: Youth Science Canada	
University of Ottawa Entrance Scholarship Senior Bronze Medallist - $1000 Entrance Scholarship Sponsor: University of Ottawa	$1 000
Western University Scholarship Bronze Medallist - $1000 Entrance Scholarship Sponsor: Western University	$1 000
Total	$2 000