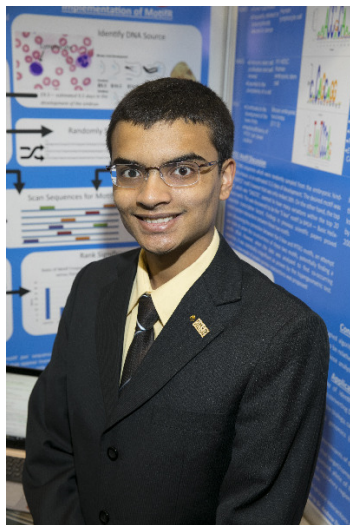


CWSF 2017 - Regina, Saskatchewan



Advait Maybhate

A New Approach to Motif Discovery

Challenge: Innovation

Category: Senior

Region: Waterloo-Wellington

City: Waterloo, ON

School: Sir John A. Macdonald S.S.

Abstract: Discovering the relationship between genetic sequences and their biological function is crucial to the understanding of life. Samples of genetic sequences can be computationally analyzed to identify significant patterns, termed motifs. Such motifs can be linked to specific functions e.g. PITX1 motif has been linked to limb development. This project proposes a new approach to motif discovery, increasing its speed without compromising accuracy.

Biography

My name is Advait Maybhate. I am a grade 11 student and a SHAD Fellow from Waterloo, Ontario. I am passionate about computer science, the natural sciences and mathematics. In the past, I have worked as a software intern at Christie Digital where I improved their camera calibration tools for projection mapping. My latest love is to compete in hackathons, recently winning the first place prize at WearHacks for my creation of an automated teleprompter for the Pebble smartwatch. I am the school champion of the Pascal, Cayley and Galois math contests, run by the University of Waterloo. Additionally, I love to compete in long distance sports, specifically cross country running and nordic skiing, in which I was the 2016 regional champion. Currently, I am the president of science club and leader of computer science club at my school. I am also a leader of electric car club where we design and manufacture 24V electric cars. I wanted to create a project in which I could integrate my love for computer science with biology. I managed to accomplish this objective by working in the field of bioinformatics, specifically by identifying motifs in genetic sequences in a new way.

Awards

Value

Statistical Society of Canada Award - Senior Sponsor: Statistical Society of Canada	\$1 000
Excellence Award - Senior - Silver Medal Sponsor: Youth Science Canada	
Dalhousie University Faculty of Science Entrance Scholarship Senior Silver Medallist - \$2500 Entrance Scholarship Sponsor: Dalhousie University, Faculty of Science	\$2 500
UBC Science (Vancouver) Entrance Award Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: The University of British Columbia (Vancouver)	\$2 000
University of Ottawa Entrance Scholarship Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: University of Ottawa	\$2 000
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
Total	\$9 500