

Ruiyan Huang (Maggie)

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EDUCATION

Pearson College UWC (Victoria, BC, Canada) 08/2019 - Present

- IB Courses: Further Mathematics HL (the only DP 1 student), Physics HL, Marine Science SL, Spanish Ab Initio SL, Economics, English A Language & Literature, Theory of Knowledge
- SAT Reasoning Test: 1530; SAT Math Level II: 800; AP Psychology: 5; TOEFL-iBT: 112
- Self-studying IB Chemistry SL and AP Art History

United World College, CSC (Changshu, JS, China) 08/2018 - 05/2019

- FP Final Grade: English 6 (7/7), Chinese 7 (7/7), Spanish 2 SL (7/7), Economics 3 (7/7), Chemistry 1 (7/7), Physics 3 (7/7), Math L 10-2 (7/7)

Suzhou Foreign Language School (Suzhou, JS, China) 09/2017 - 05/2018

- Average Score: 94.5/100

EXTRA-CURRICULUM ACTIVITIES

SCUBA Diving, Certified Diver (Victoria, Canada) 09/2019 - Present

- Certified as an open water diver by Professional Association of Diving Instructors (PADI);
- Certified Marine Basic First Aider by Canadian Red Cross;
- Devote time and energy to maintaining gears, refilling tanks, raising funds for the outdoor program;
- Dive into the coastal ocean to collect marine biological samples for the school's seawater table

Coastal Biodiversity, Monitor (Victoria, Canada) 09/2019 - Present

- Responsible for recording the number and distribution of sea lions on Race Rocks Islands and logging the abiotic factors with respect to the wind speed, direction, and time of the day;
- Created a topographic map to accurately depict the island's biological distributions via data analysis;
- Collected plankton samples along the coast and researched the plankton bloom using microscope; analyzed the food chain of marine organisms represented by salmon through field study.

Astronomy, Member (Victoria, Canada) 09/2019 - Present

- Learn about astrophysical observatory, observe stars, take astrophotography, watch documentaries, and research;
- Retrofit our school telescope with remote control and automatic functions under various climatic conditions.

U-CODE Movement, Co-founder (Changshu, China) 08/2018 - 05/2019

- Self-studied Python and peer-tutored programming languages; developed mini projects;
- Popularized girls' coding education w/ bilingual teaching to girls from local secondary schools;
- Cultivated women's self-confidence and challenge gender stereotype in STEM.

China Thinks Big (National Final), Captain (Changshu, China) 11/2018 - 04/2019

- Assembled a team of members from different cities across China and coordinated on-and-offline meetings to prepare for a research project;
- Studied the development of juvenile psychology in their growth, proposed solutions to improve the introverted mentality by applying Morita therapy.

Kayaking, Member (Changshu, China) 01/2019 - 05/2019

- Trained on rowing machines and built up physical fitness in the school gym;
- Practiced to enhance speed and balance on the lake;

VOLUNTEER & COMMUNITY SERVICE

Metchosin Community House, *To-be Leader* (Victoria, Canada) 09/2019 - Present

- Help the local elderly solve daily difficulties, especially regarding technology; spend time chatting w/ them and learn from their rich life experiences and optimistic attitudes;
- Assist the elderly in turning their life stories into picture books, memoirs and poems.

Zhi Xing (Project Week): Voluntary Tutoring in Henan, *Team Leader* (Henan, China) 10/2019 - 11/2019

- Instructed a group of left-behind children (6-to-8 graders) in Ruyan Hope School the subject of geography by inspiring them to map the outside world with imagination;
- Observed and logged the psychological development of pupils whose growth lacks parental companionship due to their laboring in cities all the year around.

ACADEMICS

Research on Cluster Algebra, *Researcher*^{SEP} (Victoria, Canada) 08/2019 - Present

- Co-work with a mathematics Ph.D. candidate, researching Quasi-cluster Algebra of non-orientable surfaces;
- Finished the proof on unistructurality of cluster algebras from Mobius stripe without punctures, and proved the number of triangulation on a Mobius stripe without punctures.

Canada/USA Mathcamp, *Scholar* (Oregon, US) 06/2019 - 07/2019

- Studied college-level and unusual math topics, for instance, Polytopes and polyhedra; Groups, rings, and fields; Non-Euclidean Geometry; Knot theory; Gödel's Incompleteness Theorem, Cryptography;
- Attended daily colloquia led by young Ph.D. instructors to discover new branches of math and the magic of mathematical knowledge, such as Hodge conjecture, the mathematics of origami, and even "Why 37 is Evil";
- Conducted collaborative projects on point-set topology and graph theory under the close guidance of a Mathcamp faculty member.

Columbia Univ. Social Science Research Training Workshop, *Researcher* (Changshu, China) 11/2018 - 02/2019

- Interviewed 50 groups of students, conducted literature review of behavioral psychology, analyzed data and produced a paper in English: *How does targeted advertising on social media impact the behaviors of adolescents?*
- Honed research skills by attending intensive-reading lectures; studied topics of social justice, gender equality, and juvenile development; mastered new tools to analyze modern social problems.

HONORS & AWARDS

- Meritorious Award, 22nd Annual High School Mathematical Contest in Modeling (HiMCM), 02/2020
- Honor Roll in BC, Canadian Open Mathematics Challenge, qualified for attending Canadian Mathematical Olympiad (CMO), 11/2019
- Top 5%, Euclid Contest, The CENTER for EDUCATION in MATHEMATICS and COMPUTING, University of Waterloo, 05/2019
- Second Prize, CHINA THINKS BIG National Final, 03/2019
- Third Prize, Columbia University Social Science Research Workshop, Columbia INCITE, 02/2019
- First Prize (China), Math League, qualified for US Final (at Stanford) and its Math Camp (co-held by the Departments of Mathematics of Princeton University, Columbia University, and Williams College), 2018
- Second Prize, Jiangsu Junior High School Mathematics Competition, 2017
- Second Place (Global Final), The Berkeley Mini Math Tournament (BmMT), 2017