Yifan Zhao *405 Rue de la Concorde, UNIT 2211, Montreal, QC, Canada*

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Summary

C. elegans enthusiast with roots in Computer Science. Creates/structures/refines quantitative analyses of bio-data. Passionately seeking to untangle complex biological questions.

In the summer of 2018, Yifan wrote her first lines of code in MATLAB to simulate diffusion-limited aggregation—a fractal pattern that she observed in her high school Chemistry project. Two months later, she took an introductory course to programming in Life Sciences in McGill University from which she will be graduating two years later (2020) with a degree in Computer Science and Biology.

Having had the opportunities to partake in multiple research projects both *in vitro* and *in silico*, if she learned one thing in those days running experiments and mouting worms on agarose, it would be that biological data was messy and hard to gather. She is currently working in Gerhold Lab (McGill) to design *in silico* tools to leverage and wrangle the increasing amount of bio-image data, and to better derive meaning from the otherwise dizzingly complexity of it all.

Education

McGill University — Montreal, Canada

Honours B.Sc. in Computer Science and Biology *2017 – 2020 (expected)*

- James McGill Scholarship • Dean's Honour List • Faculty of Science Scholarship
- Science Undergraduate Research Award • Member of Golden Key International Honour Society

Centennial Secondary School — Coquitlam, Canada

British Columbia Dogwood Diploma (Certificate of Graduation) *2015 – 2017*

- Governor General's Academic Medal • International Student Ambassador Scholarship
- Science Club Co-President • Indian Umbrella Co-President • Student Council Treasurer
- National Biology Scholar with Distinction • AP Scholar with Honour

Research Experience

Research Assistant, Gerhold Lab

Montreal, Canada *May '19 – present*

- Designs automated algorithms for centrosome pairing in cells that undergo mitosis;
- Conducts *In situ* live-cell imaging experiments of *C. elegans* germline stem cells (GSCs);
- Characterizes mitotic spindle assembly in GSCs under various environmental conditions.

Research Student (BIOC396 Project), Akavia Lab

Montreal, Canada *Jan '19 – Apr '19*

- Assessed protein localization prediction in Gene-Transcript-Protein-Reaction Associations framework;
- Cross-validated against datasets from multiple biochemistry experimental studies;
- Identified possible causes of inaccurate model predictions.

Research Assistant, Yamanaka Lab

Montreal, Canada *Dec '18 – Apr '19*

- Created MiSeq-Analyzer, a tool that streamlines dynamic MiSeq sequencing data analyses;
- Quantified and classified Cas9 RNA-guided endonucleases off-target sites to identify the clonal selection patterns during cancer progression in mice ovarian high-grade serous ovarian cancer models.

Summer Research Intern, Canada's Digital Health Hub

Surrey, Canada *Jul '18 – Aug '18*

- Reviewed extensive literature on stress paradigm and memory consolidation;
- Tested a variety of biosensors to design stress stimulation experiments;
- Operated electroencephlography (EEG) tests for control and autistic children;
- Assisted with EEG data pre-processing using MATLAB FieldTrip Toolbox.

Please refer to Yifan' LinkedIn profile for a more complete list of professional experience along with recommendations.

Volunteering & Extracurricular Activities

Volunteer Coordinator, McGill SSMU Volunteer Service
Montreal, Canada *Sep '18 – present*

- Provides consultation services to help students find suitable volunteer commitments ;
- Assists with coordination and organization of bi-annual McGill volunteer fairs.

Vice President of Student Affairs, Canadian Organization for Undergraduate Health Research
Montreal, Canada *Jul '18 – present*

- Initiates and maintains contact with Principal Investigators;
- Develops of a comprehensive database of PIs with matched students;
- Promotes positive student relations and advocated for co-corricular needs of the students.

Note-Taker, McGIll Office for Students with Disabilities
Montreal, Canada *Oct '17 – present*

- Takes notes for various courses for classmates with disabilities;
- Courses: BIOL 200, BIOL 201, BIOL 215, CHEM 212, CHEM 281, COMP 204, COMP 206, COMP 250, MATH 141, MATH 222, MATH 240, MATH 323, and MATH 324.

Vice President *(till Apr '19)***, Guzheng Player & Senior Advisor**
McGill Students Chinese Music Society
Montreal, Canada *Sep '17 – present*

- Runs weekly rehearsals in preparation for annual concerts;
- Performs in Chinese traditional festivals and banquets.

Media Relations Volunteer, Canadian Cancer Society (BC & Yukon Division)
Vancouver, Canada *Nov '16 – Aug '18*

- Translated and reviewed promotion and education materials on cancer prevention;
- Composed wellness-related articles for publication in Herald Monthly, a Vancouver-based not-for-profit monthly Chinese newspaper.

Child Health Clinic Volunteer, Fraser Health Newport Public Health
Port Moody, Canada *Sep '16 – Aug '17*

- Assisted with registration and trained incoming volunteers;
- Carefully observed babies in case of reactions after vaccination

Junior Instructor, UBC GEERing UP Summer Camp
Vancouver, Canada *Jul '16 – Aug '16*

- Assisted senior instructors with class management and delivering STEM themed activities.

Recreation Assistant, Burquitlam Lion's Care Centre
Coquitlam, Canada *Jun '15 – Feb '16*

- Coordinated local church group visitations;
- Assisted senior residents with walking and eating.

Skills

Programing languages: Python , MATLAB , Java , C++, Bash scripting

Natural languages:

- Wenzhounese *(mother tongue, dialect)*
- Mandarin Chinese *(mother tongue)*
- English *(full professional proficiency)*
- French *(limited working proficiency)*

Certification:

- Ethical Conduct for Research Involving Human Course on Research Ethics Certificate
- Workplace Hazardous Materials Information System 2015 Certificate
- Standard First Aid & CPR/ AED Level C
- Safe Use of Biological Safety Cabinets
- Level 8 Guzheng Practical