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

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Education

Massachusetts Institute of Technology — Cambridge, United Sates
PhD in Medical Engineering and Medical Physics *2020 – present*

McGill University — Montreal, Canada
Honours BSc in Computer Science and Biology *2017 – 2020*

- First Class Honours with Distinction
- Dean's Honour List
- James McGill Scholarship
- Faculty of Science Scholarship
- Science Undergraduate Research Award
- E Gordon Edwards Biology Award

Research Experience

Summer Research Intern, Li Lab
Montreal, Canada *May '20 – Aug '20*
- Developed a Bayesian inference model for single-cell clustering
- Conducted experiments to assess model behavior and compare with state-of-art methods
- Performed pathway enrichment analyses to extract biological meanings from gene embeddings

Honours Research Student, Gerhold Lab
Montreal, Canada *May '19 – May '20*
- Developed Centracker, an automated analysis pipeline for centrosome tracking and pairing
- Conducted *in situ* live-cell imaging experiments of *C. elegans* germline stem cells
- Training in spinning disk confocal microscopy, MetaMorph & worm mounting techniques

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 models of ovarian cancer

Research Student (BIOC396 Project), Akavia Lab
Montreal, Canada *Jan '19 – Apr '19*
- Assessed protein localization prediction in a human genome-scale metabolic model
- Cross-validated datasets from multiple biochemistry empirical studies
- Identified possible causes of inaccurate model predictions

Summer Research Intern, Canada's Digital Health Hub
Surrey, Canada *Jul '18 – Aug '18*
- Reviewed extensive literature on stress paradigm and memory consolidation
- Tested biosensors to design stress stimulation experiments
- Operated electroencephalography (EEG) tests for healthy and autistic children
- Assisted with EEG data pre-processing (MATLAB FieldTrip Toolbox)

Teaching & Volunteering

Undergraduate Teaching Assistant, McGill University
Montreal, Canada *Jan '19 – Dec '19*
- MATH 240 Discrete Structures (Fall 2019)
- MATH 324 Statistics (Winter 2019)

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

Proficiencies

- **Natural Languages:** English, Mandarin Chinese, French, Wenzhounese
- **Programing Languages**: Python (*PyTorch*), MATLAB, C++, C, Java, R
- **Confocal Spinning Disk Microscopy:** Visualization of fluorescent molecules in *C. elegans* germline stem cells, time-lapse photography of *C. elegans* dividing cells
- ***C. elegans* Care and Husbandry:** Bleaching, worm picking, strain maintenance, whole-mounting