

# Fan Yang

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## EDUCATION

### Honours Bachelor of Science

2019–2023

### Major in Psychology, Neuroscience and Behaviour, Minor in Biology

*McMaster University, Ontario*

- 2019 Honour Award

## CERTIFICATES

CPR/AED/First Aid

Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans – TCPS 2

ICH Good Clinical Practice E6 (R2)

## RESEARCH EXPERIENCE

### Women in AI Hackathon

2023/11–2023/12

*Online, Ontario*

- Participated in a month-long hackathon focused on **Ethical Artificial Intelligence (AI)** and **AI product development**
- Collaborated with teammates to develop an innovative **AI product** targeting **underrepresentation of women** in legislative sectors using traditional and generative AI techniques, including causal factor analyzer and a chatbot
- Demonstrated **teamwork** in **debugging and refining** the regression model to analyze the causality of seats held by women in national parliament using python
- Integrated final product on the website ([www.legisladies.com](http://www.legisladies.com)) with an **interactive interface** for citizen education on **better female engagement in politics**
- Advanced to the **final round** and received **Consolation Prizes** among 24 competing teams

### Timing and Rhythm in Mind, Brain and Action (TRIMBA)

2022/09–2023/05

*(now METRE lab) Online Tapping Experiment, McMaster University*

- Conducted a comprehensive study to investigate the **cognitive processes** in human recognition and tracking of auditory stable rhythms
- Independently acquired proficiency in **Gorilla** and **Python**
- Utilized Python to filter un-rhythmic audio and noise, processing unmatched rhythms of response and stimuli 70 collected **rhythm audio data files**
- Checked experiment adherence to ethical regulations and standards, **submitted ethics application** for approval
- Revised online experiment instructions based on **participant feedback**, resulting in a **25% reduction** in participant confusion

### Language, Memory and Brain Lab (LMB)

2021/09–2023/05

*Chelsea Whitewell (Ph.D.) and Conan Hu (Master) Research Groups, McMaster University*

- Collaborated with a Ph.D. candidate on young Canadians' **language perception and development**, particularly in French, and the influence of acquiring a second language (L2) on learning a third Romance language
- Collaborated with a master candidate on investigating the influence of individuals' first language (L1) and fluency in L2 on **attitudes and strategies** in negotiation scenarios
- Developed R scripts for data cleaning, **reducing processing time** by **30%** in a study by filtering untargeted responses and calculating reading speed
- Modified and programmed project questionnaires using LimeSurvey and resolved **technical issues** with experimental software (PsychoPy, Pavlovia, SuperLab)
- Organized all aspects of data collection management, including **participant recruitment, interviews, lab bookings, and database maintenance**, resulting in streamlined processes
- Provided **comprehensive training sessions** to Research Assistants (RAs) on experimental procedures, ensuring precise task execution

### **Borealis AI “Let’s Solve It,” Undergraduate Mentorship Program**

2021/09-2021/12

*Online, Ontario*

- Proposed the Self-Adaptive Depression Music Therapy project, integrating **AI and Machine Learning (ML)** technologies as a team to **facilitate self-regulation** for individuals with depression, aiming to **enhance accessibility to music therapy**
- Led **literature review** to identify the relationship between brain data and mood, and parameter techniques for implementation
- Mentored by computer science **industry experts** and explored **data pre-processing and analysis** with peers from computer science and psychology backgrounds
- Demonstrated **leadership** by organizing and motivating **weekly meetings, tracking project progress, and delivering a final presentation** on emotion analysis and personalized music recommendation designs

## **WORK EXPERIENCE**

### **Invigilator**

2023/09–present

*Student Accessibility Services, McMaster University*

- Communicated with professors regarding exam issues, managed email communication with the Registrar's Office, stocked exam office supplies, and assisted students with accessibility needs by reviewing documents and setting up assistive technologies
- Worked an average of 35 hours per week, overseeing approximately 1000 students

### **Learning Series Coordinator**

2022/04–2023/05

*ARiEAL Research Centre, McMaster University*

- Organized learning series events on topics such as workplace equity, ethics application, LaTeX usage, etc., while also communicating with the operation team and speakers to manage scheduling and logistics
- Developed a streamlined registration process, tracking attendance, and gathering participant feedback for the events

## **SKILLS**

Data Analysis: R, Matlab, Excel, Jamovi, python, QGIS, JMP, SQL