

# Yuliya Zubak

Email | GitHub | LinkedIn | Site

## Languages & Tools

Javascript, React, Python/PyTorch, R (RMarkdown), SQLite, Ollama, CLI agents & MCPs

## Education

### Indiana University Bloomington

2025 – Current

*Cognitive Science and Psychology PhD*

Thesis: Quantum/Bayesian modeling of emotional communication in social groups and information cascades

### University of Toronto, Scarborough Campus

2015 – 2020

*Honors BSc: Molecular Biology & Biotechnology (Specialist Double Major, Co-op), Neuroscience (Major, 3rd)*

## Papers

- **Zubak, Y.**, & Hawkins, R. (2025). Distributed statistical inference in social interaction networks under conditions of epistemic difficulty (preprint available on request)
- **Zubak, Y.**, Dronavalli, P., Chuang, Y., & Hawkins, R. (2024). Distributed statistical inference in social interaction networks. Proceedings of the Annual Meeting of the Cognitive Science Society, 46.
- Lunardon, A. and Patena W., **Zubak Y.**, [...], Jonikas M. (2024). The *Chlamydomonas reinhardtii* CLiP2 mutant collection expands genome coverage with high-confidence disrupting alleles. BioRxiv
- Scipio, M. D., Tavares, E., Deshmukh, S., Audo, I., Green-Sanderson, K., **Zubak, Y.**, . . . Vincent, A. (2020). Phenotype Driven Analysis of WGS Identifies Deep Intronic Variants (...). IOVS

## Experience

### Lab Manager/Research Coordinator

Sept 2023 – 2025

*Dr. Robert Hawkins, Linguistics, Stanford University*

- Studied social learning and networking behaviors in epistemically difficult conditions, designing a web game, analyzing data, modeling behavior with agents, and collecting data with young children
- Inaugural lab manager; established lab culture, created pipelines, and maintained IRBs

### Research Specialist

Nov 2021 – Oct 2023

*Dr. Martin Jonikas, Department of Molecular Biology, Princeton University*

- Generated mutants, then designed and tested a high-throughput pooled screen targeting all major pathways to globally study function and create an atlas of the organism.

### Junior Research Analyst

Sept 2019 – Apr 2020

*Dr. Yuliya Nikolova, Centre for Addiction and Mental Health (CAMH)*

- Created a prediction score for genetic risk factors between the sexes in depression-associated regions/genes based on transcriptomic, polymorphism and MRI data from the Human Connectome Project

### Research Student

Sept 2018 – Aug 2019

*Dr. Julien Muffat, Neurosciences and Mental Health, Hospital for Sick Children*

- Designed project for the lab in Fetal Alcohol Spectrum Disorder in organoids, conducting a literature search, designing and carrying out experiments, and processing resultant data

*Dr. Karen Gordon, Otolaryngology*

- Studied brain connectivity changes in deaf children with cochlear implants

*Dr. Elise Heon, Genetics and Genome Biology*

- Studied proteins caused by non-local gene changes due to epigenetic change

## Extracurricular Activities

(2025) **Fellow** Human Augmentation Lab

(2018-2025) **Admin** University of Toronto  
Scarborough Alumni Discord Server

(2021-2023) **Fellow** NATO Innovation Hub

(2015-2021) **Director** on Board of Directors  
(Elected, Two Terms) YCC No. 457

(2017-2018) **First Year Representative**  
Association of Philosophy Students