

# Zoey Drassinower

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Zoey Drassinower (they/she) is a recent university graduate with B.Sc. in Computing, Math and Analytics. Completed several research contracts in graduate-level labs conducting novel research. Seeking to leverage strong analytical and communications skills in project-based professional environments.

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## Education

Bachelors in Computing (Honours) w/ Specialization in Computing and Mathematics from Queen's University

## Academic Work Experience

### Research Contracts

- May 2023 – May 2024**      **Summer Research/Undergraduate Final Project (High Dimensional Feature Selection), Queen's University**  
Applying statistical methods to identify key molecules in fungi and hot sauce.  
Supervised by Prof. Randy Ellis, funded by NSERC USRA grant.
- Reviewed current literature to select algorithms from relevant academic papers
  - Implemented and applied algorithms to very high dimensional data
  - Visualized and presented results to peers and supervisors
- May 2022 – Aug 2022**      **Summer Research (Soccer Analytics), Queen's University**  
Modelling successful offensive progressions in soccer using player tracking data.  
Supervised by Prof. Catherine Pfaff.
- Improved transformation algorithms, resulting in 20x faster code execution
  - Migrated workflow to run in Docker containers

### Teaching Assistant Contracts

- Winter 2024**      **(TA) Artificial Intelligence (300-level), Queen's University**  
Introduction to AI topics, such as Bayesian reasoning, automated planning and neural networks.  
Course taught by Prof. Christian Muise.
- Standard TA responsibilities (grading, office hours, etc.)
  - Identified and corrected bugs in auto-grader scripts
  - Updated assignment code to be compatible with modern python versions
- Fall 2023**      **(Head TA) Programming Paradigms (300-level) Queen's University**  
Introduction to functional and declarative programming languages (Haskell, Prolog).  
Course taught by Prof. Jana Dunfield.
- Standard TA responsibilities (grading, office hours, etc.)
  - Allocated and managed responsibilities of other TAs
  - Wrote and recorded videos teaching review materials
  - Wrote and recorded videos teaching intuition behind course concepts
- Fall 2022**      **(TA) Programming Paradigms (300-level) Queen's University**  
**Winter 2023**      Introduction to AI topics, such as Bayesian reasoning, automated planning and neural networks.  
Course taught by Prof. Christian Muise.
- Standard TA responsibilities (grading, office hours, etc.)
  - Created exam prep materials
  - Taught exam prep tutorials

## **Teaching and Mentoring Experience**

### ***Jan 2024 – Apr 2024*    Introductory Programming Lessons**

- Taught weekly 1-on-1 programming lessons (in person) to a 1<sup>st</sup> year math student with no prior coding experience
- Designed a personalized lesson plan, tailored to meet the goals of the student
- Supplemented lessons with “workplace computing skills” such as debugging, documentation, style, and Git

### ***Jun 2019 – Apr 2024*    Various Math and Physics Tutoring**

- Tutored students taking 1<sup>st</sup> and 2<sup>nd</sup> year math and physics courses

## **Grants and Awards**

### ***May 2023*    Undergraduate Summer Research Award (*Natural Sciences and Engineering Research Council of Canada*) - **\$9800****

- Awarded each year to 3000 Canadian STEM undergraduates conducting novel research over the summer

### ***Jan 2024*    Dean's Award of Excellence (*Queen's University*)**

- Awarded to undergraduates with GPA in the top 0.5% of GPAs in the Faculty of Arts and Sciences at Queen's

## **Independent Projects**

*A complete list of projects and write-ups can be found at my portfolio site: [zoeyzwee.github.io](https://zoeyzwee.github.io)*

### **Py2048-ML v2 (Python)**

- Re-creating the 2048 agent described in the Stochastic MuZero paper by Deep Mind
- Applies multiple state of the art techniques in deep reinforcement learning, such as reward scaling, prioritized replay buffers, Monte-Carlo tree search, residual networks, layer-normalization
- Neural networks built using TensorFlow

### **Zoelver (Python/Rust)**

- A classical planner, prototyped in Python and built in Rust, implementing a variety of classical planning strategies

### **Baseball Tracking Dashboard (Python)**

- A custom data dashboard for analyzing batter tendencies
- Built and hosted via Streamlit
- Created as part of the 2024 Women in Sports Data Hackathon

## **Other Interests**

### **Songwriting and Performance**

- 15 years of vocal training at ProVoce Studios and Free Your Voice coaching
- Participated in Artist Development/Songwriter workshops at Lawson Vocal Studios
- Played hired performances at on-campus events throughout university
- Self-produced and recorded original song: Run Down

### **Competitive Ultimate Frisbee**

- 1 season of varsity at Queen's (2023-2024)
- 1 season of competitive tournaments w/ Toronto Remix (2024)