

# Kasra Sina

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## EXPERIENCE

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### Undergraduate Teaching Assistant (Upcoming Role)

2025 | Guelph, Canada

#### University of Guelph [🔗](#)

- Teaching Assistant for Discrete Structures in Computing II (CIS\*2910) under the supervision of Professor Joe Sawada.
- Assist in evaluating student work for upper-level discrete mathematics concepts, including advanced graph theory, complexity analysis, and sophisticated proof techniques.
- Provide detailed, constructive feedback to help students strengthen their logical reasoning and problem-solving strategies.
- Support exam administration by maintaining strict assessment standards, and upholding academic integrity.

### Undergraduate Teaching Assistant

2024 Sep – 2024 Dec | Guelph, ON

#### University of Guelph [🔗](#)

- Teaching Assistant for Discrete Structures in Computing I (CIS\*1910) under the supervision of Professor Pascal Matsakis.
- Graded more than 1000 assignments and exams combined.
- Provided feedback on students' coursework and guided them through complex mathematical concepts such as boolean algebra, set theory, proof methods and binary relations.
- Invigilated the examinations of more than 500 students.

### Indicium Researcher

2024 Jan – 2024 Jun | Guelph, ON

#### STEM Fellowship [🔗](#)

- Collaborated on a multidisciplinary research project focusing on the Traveling Salesman Problem (TSP), implementing and refining algorithms like brute force, simulated annealing, two-opt, and three-opt in Python.
- Improved code structure using OOP principles, contributed to data visualization tools, and developed supporting utility functions to enhance the user experience and code functionality.
- Showcased the team's work at the STEM Fellowship's national Indicium competition, representing the University of Guelph and demonstrating practical optimization approaches to a broader academic audience.

## EDUCATION

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### Bachelor of Computing Honours, Computer Science (Co-op)

2023 Sep – present | Guelph, ON

#### University of Guelph [🔗](#)

- Currently maintaining a GPA of 4.0
- Completing a minor in Political Science.
- College of Engineering and Physical Sciences Dean's Honours List (Fall 2023, Winter 2024 and Fall 2024)
- Relevant Coursework: Data Structures (93%), Discrete Structures in Computing II (91%), Linear Algebra (98%)
- Key academic project:
  - Investment Management System - Object Oriented Programming Project (2024):
    - Developed a Java-based investment management application for stocks and mutual funds, featuring buy, sell, update, search, and gain calculation operations.
    - Employed advanced OOP principles. Integrated GUI components (Swing/AWT) for a user-friendly interface, and optimized search performance using a HashMap-based keyword index.

## PROJECTS

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### Portfolio Website [🔗](#)

2024 Mar

#### Technologies: HTML, CSS, JavaScript

- Developed a responsive and interactive portfolio website to showcase full-stack development skills.
- Used HTML and CSS to implement a responsive design, ensuring optimal viewing across all devices.
- Utilized JavaScript to create dynamic content, enhancing user engagement and interactivity.

## TECHNICAL SKILLS

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**Programming Languages:** Python, C, C++, Java, JavaScript, HTML, CSS, R, Assembly

**Operating Systems:** Windows, Linux, macOS

**Libraries and Frameworks:** NumPy, Pandas, Matplotlib

**Development Tools:** Git, GitHub, GitLab, Visual Studio Code (VS Code), PyCharm, Nano, Valgrind, Jira, Asana

**Other Skills:** Combinatorial optimization, heuristic techniques, discrete mathematics, data visualization, AI ethics, User Experience Design (UX), Research, Object-Oriented Programming (OOP), Microsoft Office