

# Bowen Dai

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Waterloo, Ontario, Canada

## SKILLS

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- **Programming Languages:** Java, Python,  $\text{\LaTeX}$ , C, JavaScript, HTML, CSS
- **Other tools:** Git, GitHub, GitLab, VScode, Vim, IntelliJ, Pycharm, Excel, Unity
- **Languages:** English: Fluent, French: Fluent, Chinese: Fluent

## PROJECTS

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### • Automatic chess board

November 2024

Tools: JavaScript, C



- Developed a live web interface supporting real-time gameplay updates via Socket.IO
- Implemented a path-finding algorithm to generate the most optimal path for each move
- Designed a robotic chessboard capable of detecting and moving 32 pieces using a CoreXY system and a 64-sensor matrix circuit.
- Fabricated and tested 10+ 3D-printed components

### • RSA encryption and decryption

June 2024

Tools: Python



- Implemented key generation, encryption, and decryption algorithms using modular arithmetic and large prime numbers.
- Built a user-friendly interface allowing users to set up, encrypt and decrypt text messages.

## WORK EXPERIENCE

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### • Grader for the courses: Programming in Science, Calculus1 [🌐]

August 2024 - present

Marianopolis College

Remote

- Reviewed and evaluated 60 copies student assignments per week.
- Provided constructive and timely feedback to students, identifying areas for improvement and clarifying any misunderstandings.

### • Peer/Alumni Tutor for Calculus 1, 2 and Moderne Physics [🌐]

August 2023 - Present

Marianopolis College

Montreal, Canada

- Provided one-on-one tutoring sessions, assisting with problem-solving and concept comprehension.
- Tailored explanations of complex topics to meet individual student needs.

## HONORS AND AWARDS

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### • Ranked in top 25% in the following competitions:

May 2024, May 2023, May 2024

University of Waterloo

- Senior and Junior Canadian Computer Competition
- Canadian Senior Mathematics Contest

### • 3rd Place in business case competition

September 2023

Queen's University



## EDUCATION

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### • Bachelor of Applied Science: Software Engineering

August 2024 - Present

University of Waterloo

Waterloo, Canada

- Average: 96
- President's Scholarship: \$2000

### • Diploma of College Study: Health Science

August 2022- June 2024

Marianopolis College

Montreal, Canada

- Instructor of Math Club
- Honor's Roll