

# Bhavdeep Arora

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## EDUCATION

### Toronto Metropolitan University (Formerly Ryerson University)

Toronto, ON

*Bachelor of Science (Honours) Computer Science · Software Engineering Concentration*

*2022–2027*

- Relevant Coursework: Data Structures & Algorithms, Software Engineering, Operating Systems, Data Science
- Minors: Mathematics (Graph Theory, Mathematical Modeling), Cyber Studies (Computer & Network Security)

## TECHNICAL SKILLS

**Languages:** Java, Python, C/C++, JavaScript, HTML/CSS, PHP, Ruby, Elixir, Haskell, Rust, Go

**Frameworks:** React, Node.js, Tailwind, Django, Flask, WordPress

**Developer Tools:** Git, Docker, TravisCI, Google Cloud Platform

**Databases:** MySQL, SQLite, MongoDB, Oracle, AWS, Azure, Firebase

**Office Tools:** Word, Excel, PowerPoint, Jira

## PROJECTS

### Bug Reporting System (BRS) | *Python, Flask, SQLite3, JavaScript, HTML, CSS* | [Github](#)

- Designed and developed a Bug Reporting System (BRS) app to streamline the process of reporting and managing software bugs or defects
- Implemented **user authentication feature** for secure access to the system, enhancing data confidentiality and integrity
- **Created graphical representations** of bug trends for **better sprint planning**, improving overall project management efficiency

### Redis Implementation | *C++, TCP/IP, Data Structures, Networking* | [Github](#)

- Built a high-performance in-memory data structure server in C++ implementing core Redis functionality with multiple data types (strings, lists, sets, hashes) and O(1) time complexity for basic operations
- Developed **TCP networking layer** using socket programming to handle concurrent client connections with Redis protocol (RESP) communication
- **Implemented persistence and optimization features** including RDB snapshots, AOF logging, custom memory allocators, and LRU eviction policy for efficient cache management

### Calvin and Hobbes Quoter | *Python, Flask, JSON* | [Github](#)

- Developed a Flask-based API for a Calvin and Hobbes quote application, improving scalability and flexibility for future enhancements
- Designed and implemented a robust system to receive and store quotes in a JSON file, resulting in efficient retrieval and management of quotes
- Ensured seamless integration of the API, providing a user-friendly interface for easy access to quotes

### Personal Portfolio Website | *React.js, CSS, Vercel, Framer Motion* | [Github](#)

- Designed and developed a fully responsive portfolio website showcasing projects and skills
- Implemented **smooth animations** using Framer Motion to enhance user experience
- Optimized site performance with **lazy loading** for faster load times

## VOLUNTEER EXPERIENCE

### Inspire Event 2023 | *Speaker Coordinator Team Leader*

January 2023 - March 2023

- Coordinated speaker events, ensuring smooth execution
- Secured influential and engaging speakers aligned with event goals

### Sci Exchange at Toronto Metropolitan University | *Volunteer & Assistant*

September 2023 - April 2024

- Provided guidance and support to participants and visitors
- Engaged actively with numerous participants, fostering a positive environment
- Contributed significantly to post-event cleanup and organization efforts