

# Raksha Shanbhag

2A Computer Engineering | Candidate for BASc. | University of Waterloo  
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## Summary of Skills

**Languages:** C/C++, Python, JavaScript, MySQL, HTML/CSS, VB 6.0, VHDL

**Frameworks:** Node.js, Bootstrap, jQuery

**Tools/Services:** Jenkins, Git/GitHub, SonarQube, QNX Momentics, Linux, Unix/bash scripting, Eclipse

**Management:** Jira, Agile methodologies, Confluence

**Others:** MS Suite of Applications, Certified Leadership and Communication skills

**Interests:** Competitive Programming, Badminton, Marathons, Event Organizing

## Education

**Honors in Computer Engineering, University of Waterloo (2019-2024)**

- GPA - 3.4 / 4.0
- Relevant courses - Data Structures and Algorithms, Discrete Math and Logic, Digital Circuits, Advanced Calculus

## Extracurricular

**Co-Director for UW's Virtual Engineering Orientation Fall 2020**

- Organised online orientation with a team of 25 members.
- Prepared efficient action plans and reports to document every detail.
- Communicated and coordinated effectively with other directors and leaders to ensure smooth running of the event.
- Mentored incoming first years and provided support through MS Teams.

## Work Experience

**Software Infrastructure Developer (FORD Motors Company, Ottawa, ON)**

**May 2020 – August 2020  
SOA Middleware Team**

- Fixed defects and increased test code coverage of *Infotainment Software Architecture* running on latest generation FORD vehicles using *Ubuntu 16.04 and QNX virtual environments*.
- Facilitated dynamic testing of *Service Oriented Architecture (SOA)* interfaces between *Engine Control Units* by designing code independent of test environment using functions from *POSIX and fstream libraries*.
- Developed in *Google's C++ Testing and Mocking Framework* to write 15+ code files, raising overall test coverage for SOA framework files to 87%.
- Designed *Shell Scripts* to generate Unit Test coverage reports for *SOA Framework library* that helped monitor test efficiency.
- Analysed code smells detected through *Jenkins, SonarQube* and *Cpp-check* reports to perform essential bug fixes using *STL Library functions and Object-Oriented Programming*.
- Worked in an *agile environment* with a team of 12 members, and organised tasks through *JIRA, GitHub and Confluence*.

**Programmer Analyst Intern (Modern Software LLC., Muscat, Oman)**

**December 2019**

- Developed a small module for a team project, that helps teachers keep track student progress, using *VB 6.0 and MS Access*.
- Worked on *ADO and RDO functionalities*, and applied Database concepts like *database creation, relations and data-management* to learn the basic concepts of *Systems Analysis and Design*.
- Effectively communicated the results of the sub-project to members of the team working on *College Management System*.

## Key Projects

**Live-Auction Algorithm | C++**

**August 2019**

- Designed a program which implements *data file handling, data encapsulation and abstraction* to organize data for a live auction.
- Built various operations like search, add, delete, modify, etc. using *fstream library functions*, to improve user experience.

**SPLIT Coin (in progress) | C++**

**August 2020**

- Developed a datafile driven program that helps household keep track of individual payments using *Linked Lists and OOPs*.
- Devised user-friendly options for displaying member debts and making new entries, using *STL containers, iterators and fstream library functions*.

**To-Do List Web App | Python, Django, Bootstrap**

**May 2020**

- Created a database driven to-do list web app to keep track of unfinished tasks using *Python and Django* frameworks.
- Designed view pages with *Bootstrap 4.0* to maintain aesthetics.

**Simon Game Challenge | Node.js, Express.js, jQuery**

**July 2020**

- Programmed a memory game that tests user memory through a pattern of audio visuals which grows with increasing levels.
- Developed the game using *jQuery macros* to detect user input and *Express.js* to display current high score.

**Secret Text Converter | C++**

**November 2019**

- Constructed a program that applies *ASCII armoring* for encryption and decryption, using *dynamic memory allocation* for storing large text files.

