

# Ben Morris | 3A

## Software Engineering

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Undergraduate Software Engineering student in 3A term at the University of Waterloo. Experience developing many types of applications for different purposes, including web development, robotics, and video game development.

### Previous Employment

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- **MedAvail Technologies Inc.** **Mississauga, Canada**  
*Co-op Developer* *September 2015 - December 2015*
  - Primarily worked as a member of the software architecture team.
  - Wrote database communication retrieval and processing logic, and made several enhancements to the database schema in use.
  - Enhanced the company's NSIS installer systems to install client specific features depending on the machine it was being run on.
  - Also worked with front and back end development for the company's suite of web applications.
- **MedAvail Technologies Inc.** **Mississauga, Canada**  
*Junior Developer* *January 2015 - April 2015*
  - Primarily worked as a member of the Machine team
  - Wrote logic for the "MedCenter" automated pharmacy that directly .
  - Enhanced a code analysis tool used by the developers to ensure correctness of the code being checked in.
  - Helped create a "watchdog" application to monitor the MedCenter's software in case of connectivity issues or unexpected complications.
  - In addition my work included fixing bugs, reviewing code, and working with other developers to add new features.
- **Ontario Ministry of Transportation** **St.Catharines, Canada**  
*System Administrator* *May 2014 - August 2014*
  - Responsibilities included the monitoring and deployment of web applications.
  - Performed database analysis and optimization.
  - Created SQL scripts and views using Microsoft excel to display information from the database for non-technical users.
- **Luribox UF** **Sandviken, Sweden**  
*Co-founder and Lead Designer* *Fall 2011 - Spring 2012*
  - Founded a "Youth Company" along with 7 other classmates.
  - Designed earphone holders to help users keep their earphone cords untangled.
  - Produced and sold the product not only for individual customers, but also sold them in bulk to third party retailers.

## Notable Projects

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- **Table Top Helper** *'Helping RPG groups communicate and organize'*
  - Created an online tool to help players of table top role playing games such as dungeons and dragons organize their game sessions, as well as keep track of important information
  - Table Top Helper is a single page application, built with Angular.js front end logic, Bootstrap elements for the views, all on a node.js server using a MongoDB Database.
  - All communication between front and backend is achieved using WebSockets - Namely the Socket.io library.
  - Feel free to make an account and check out the latest stable version at [tabletophelper-bengineering.rhcloud.com](http://tabletophelper-bengineering.rhcloud.com)
- **Multiplayer Web Game (in progress)** *'A simple game to test multi-user interaction'*
  - Created a web based multi player video game using HTML 5 canvas with JavaScript.
  - This game allows a number of users to connect to a single world, and all actions a player can perform are replicated on the other players machines using Socket.io WebSocket communication.
  - Movement is synchronized to ensure the world is displayed accurately to other users.
  - Though this game is still not complete, most of the logic (including everything mentioned here) is complete, and the latest stable version can be seen at [webgame-bengineering.rhcloud.com](http://webgame-bengineering.rhcloud.com)
- **Chat application** *'Using WebSockets to their full potential'*
  - A chat application built around WebSocket communication.
  - Designed to have low data overhead and low latency.
  - Runs on a Node.js server, storing messages in a MySQL database.
- **Scribbler 2 Robot AI:** *'Solving a real world problem with limited resources'*
  - Programmed a Scribbler 2 robot to map an indoor area and be able to navigate it.
  - All robot logic was written in Python.
  - Implemented path-finding, obstacle sensing, and movement logic.

## Education

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| ○ <b>University of Waterloo</b>      | <b>Waterloo, Canada</b> |
| ○ <i>Honors Software Engineering</i> | <i>2013–Present</i>     |
| ○ <b>Goransonsska High School</b>    | <b>Sandviken Sweden</b> |
| ○ <i>Engineering Program</i>         | <i>2010–2013</i>        |

## Technical and Personal skills

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- **Programming Languages:** Proficient in: C, C++, C#, Java, JavaScript (AngularJS, Node.js), HTML and CSS  
Also basic ability with: PHP, Arduino Programming, VHDL.
- **Technologies and Frameworks** AngularJS, Node.js, Socket.io, JQuery, MongoDB, MySQL, Transact SQL.
- **Tool Skills:** Git, Team Foundation Server, Microsoft Visual Studio, Eclipse IDE, Microsoft office tools.