

# Deep Dhillon

<https://deepdhillon.ca>

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## SKILLS

### LANGUAGES

Go, C/C++, Java  
Python, JavaScript, Dart  
Kotlin, SQL, MATLAB

### FRAMEWORKS

Java EE, Android  
Qt5, UML, Flutter  
OpenGL, NodeJS  
Arduino SDK

### LIBRARIES

React, Redux  
jQuery, Bootstrap

### TOOLS/HARDWARE

Git, Maven, Gradle  
IntelliJ, Make, Ninja  
CMake, pypi, npm  
Bash, AVR, ARM

### PROTOCOLS

I2C, CAN  
UART, SPI  
UDP, TCP

## EDUCATION

### UNIVERSITY OF WATERLOO

#### BMath

Honors Mathematics

**Expected Major:** Statistics  
Expected Spring 2021

## INTERESTS

Big Data  
Embedded Systems  
Finance  
Machine Learning

## EXPERIENCE

### LoyaltyOne INC. | Software Developer Intern

Sep 2018 — Present | Toronto, ON

- Working on **Air Miles** website to incorporate marketing needs as well as creating a **chatbot** to help with customer experience.

### Agfa Healthcare INC. | Software Developer Co-op

Sep 2017 — Dec 2017 | Waterloo, ON

- Designed and implemented tools to load data onto a **medical dataset**, a central server for all the medical images, and monitor its performance.
- Used **Grafana** and **Influx DB** to create a **dashboard** to show the performance logs, in real time, for the medical server.
- Developed an **anonymizer** for patient and medical data to protect **privacy**

## EXTRACURRICULARS

### Software Lead | Waterloo

- Developed Wio, an **IoT ecosystem** to make **embedded** development easier and simpler. This tool is used for Waterloo embedded development.
- Developed a **lightweight, memory-efficient C++ STL library** for use on microcontrollers, uses custom memory management
- Developed a **controls system** for Goose 2 Hyperloop Pod capable of going at **high speeds** with **the autonomous capability** and high safety standards.

### Technical Director | Waterloo

- Lead a growing team of **over 70 students** in designing an all-new SpaceX Hyperloop Competition 2018 pod. Invited by SpaceX to submit a detailed design package, placing **top 47 out of hundreds of teams worldwide**.
- Coordinated the establishment of daily meetings across all subteams, outreach programs, and partnerships with businesses and universities

## PROJECTS

### Wio | An Open Source IoT Development Environment

- Developed a command line tool in **Go** to make **embedded development** easier, simpler and flexible. Used by Waterloo for embedded development.
- Included a **package manager** to make code portable and shareable.

### Wlib | Standard C++ library for Embedded Development

- Developed a subset of **STL library** suitable for **AVR** and **ARM** chips with **small memory footprint**.
- Implemented **STL containers, smart pointers**, and **math functions**.
- Provided memory management system to handle **memory fragmentation** by using **fixed sized memory blocks**

### UWDart | A Client for the University of Waterloo's Open Data API

- Implemented all the major endpoints that give access to data related to University of Waterloo courses, exams and news.