

# Ben Willetts

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**Availability:** Full-time starting June 2019

**Personal Website:** [benwilletts.me](http://benwilletts.me)

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**Github:** [github.com/bendwilletts](https://github.com/bendwilletts)

## Education

**McGill University** | *Montréal, Canada*

**September 2014 - Present**

- Bachelor of Software Engineering
- Undergraduate degree expected in June 2019
- Teaching Assistant for COMP302: Programming Languages and Paradigms in Fall 2018

**Canadian International School of Hong Kong** | *Hong Kong SAR*

**August 2001 - May 2014**

- International Baccalaureate Diploma - OSSD Diploma

## Work Experience

**McGill Clinical & Health Informatics** | *Software Developer Intern* | [mchi.mcgill.ca](http://mchi.mcgill.ca)

**May 2018 - August 2018**

- Developed interactive data-driven features with JavaScript for a health informatics web application *Montréal, Canada*
- Led the creation of an API to facilitate external server queries for R developers and scientists
- Involved in a Scrum management system for agile development; making efficient use of JIRA software
- Collaborated with leading researchers in Epidemiology and Biostatistics to fine-tune software requirements

**Gammon Construction Limited** | *Information Management Services Intern*

**May 2017 - August 2017**

- Designed an enterprise application to support intercompany workflow and transactions *Hong Kong SAR*
- Created modern dynamic user interfaces with Angular JS and managed the back-end application with Java/Spring
- Communicated application requirements with E&M engineering experts to sustain feature driven programming
- Experienced an enterprise development format, managing changes through Apache Subversion

**TOM Condos** | *Data Management Administrator* | *Summer Intern* | *Part-time*

**May 2016 - April 2017**

- Managed client data for a luxury condo development *Montréal, Canada*
- Proposed and implemented online advertising solutions for real estate developments

## Other Relevant Experience

**UCSF-McGill-PeriGen Research Project** | *Project Member* | *Advisor: Prof. Robert E. Kearney*

**January 2018 - Present**

*Software prediction algorithm to determine the likelihood of HIE in fetuses*

*Montréal, Canada*

- Analyzed fetal monitoring (EFM) signals to identify features that are predictive of HIE
- Combined clinical and EFM data using machine learning methods to develop a perinatal HIE predictor
- Completed a grant proposal with predictive results to submit to the National Institutes of Health (NIH)

**COMP551 Kaggle Competition** | *Project Member*

**March 2018**

*Machine learning model accuracy competition using a modified MNIST dataset*

*Montréal, Canada*

- Trained a model that classifies images containing multiple digits based on the digit with the largest pixel size
- Evaluated a baseline Linear SVC model along with feed forward and convolutional neural networks
- Applied feature extraction methods to the dataset, improving test accuracy from 92% to 96.7%

**CodeJam: Data Dive** | *Hackathon Winner of Overall First Place Prize* | *Devpost: [bit.ly/walksafeny](https://devpost.com/blog/2017/11/14/walksafeny/)*

**November 2017**

*Web mapping application that provides safest route to destination*

*Montréal, Canada*

- Preprocessed NYC vehicle accident data into an incident frequency heat map using k-means clustering
- Built a route suggestion engine to consider the safest walking route using the Google Maps API.
- Implemented various software features to enhance functionality, usability, and user experience
- Presented our software demo to Amazon software engineers, competing with over eighty student teams

## Languages & Technical Skills

**English:** Fluent written and spoken | **Mandarin:** Adequate written and spoken

### Programming Languages

- Java, Python, C, R
- HTML/CSS, JavaScript
- OCaml, PHP, SQL
- UNIX Shell Scripting

### Software Tools

- AngularJS, React.js/Native
- Hibernate, Flask, Django
- sklearn, TensorFlow, Keras
- PyTorch, Jupyter, cv2, Git

### Relevant Knowledge

- Full Stack Web Development
- Agile Methodologies
- Deep Learning
- Applied Machine Learning

## Dedicated Hobbies

- Basketball, volleyball, and golf
- Long distance running/hiking charity events
- Music production and classical piano
- The Office and Rick and Morty