

# Conrad Heidebrecht

Candidate for Bachelor of Applied Science in Systems Design Engineering

crbheide@edu.uwaterloo.ca

519-501-4327

conradheidebrecht.com

github.com/eternali

## SKILLS SUMMARY

- **Self-directed learner:** The majority of my technical skills are self taught through online courses, tutorials, papers and videos.
- **Great team player:** I have had a number of experiences acting as team lead and/or coordinator in hackathons and several extensive team projects.
- **Communication skills:** At the University of Waterloo Computer Museum I was concise and informative through providing daily summaries to my supervisors.
- **Familiar with Debian based system administration:** I have set up, maintained and backed up several private servers, both local and remote.
- **Experience with front-end development:** Through self study of online resources and personal endeavors with javascript based applications.
- **Understanding of the internals of some machine learning algorithms** demonstrated through my study of machine learning courses and knowledge of common machine learning libraries.
- **Experience with database management and Apache web servers** demonstrated through my work with the University of Waterloo Computer Museum as well as my own personal website.
- **Growing knowledge of low level programming:** I am currently learning how to parallelize computation with OpenCL and have started reading the Linux kernel.

## RELEVANT EXPERIENCE

- **University of Waterloo** Waterloo, ON  
*Computer Museum Technician* Oct. 2016 - Sept. 2017
  - **Collective Access:** Collective Access is an open source software for managing and publishing museum and archival collections.
  - **Server Administration:** I set up multiple Ubuntu web servers for both testing and production purposes as well as developed several custom scripts to streamline project installation and backup, data import and export, and project configuration.

## EDUCATION

- **University of Waterloo** Waterloo, ON  
*Candidate for Bachelor of Applied Science* Sept. 2017 - present
- **Rockway Mennonite Collegiate** Kitchener, ON  
*Ontario Secondary School Diploma* Jun. 2017
- **Neural Networks for Machine Learning** Coursera.org  
*University of Toronto* Jun. 2017 - present
- **Machine Learning Course** Coursera.org  
*Stanford University* Jun. - Sept. 2016
- **Biomedical Mini-Enrichment Course** Ottawa, ON  
*Carleton University* May 2015
- **Physics Mini-Enrichment Course** Ottawa, ON  
*University of Ottawa* May 2013

## AWARDS

- Governor General's Award for Top Academic Achievement in Graduating Class Jun. 2017
- Academic Excellence in: Mathematics and Science Jun. 2017
- Placed 3rd in JAMHack (SJAM Secondary School) Apr. 2017
- Highest Grade 11 Academic Achievement (Rockway) Jun. 2016
- Academic Excellence in: Mathematics, Science, Business & Computers, and Physical Education (Rockway) Jun. 2016

## PROGRAMMING SKILLS & TECHNICAL INTERESTS

- **Languages:** Python, Javascript, C++, Java, Kotlin, HTML/CSS, SQL, Octave, Latex
- **Technologies:** Linux, Git, Angular, Three.js, P5.js, JQuery, Numpy, Tensorflow, Matplotlib, Pygame, Phpmyadmin, VirtualBox
- **Hackathons:** I was a proud participant of JAMHack and Hack the North.
- **Machine Learning:** I regularly spend my free time learning about artificial intelligence through medium such as videos, research papers, tutorials and podcasts.
- **Hardware and Software:** Arduino Uno, Intel Edison, the Arduino IDE, fixing various projects, and coding in my favourite languages and IDEs.

## PROJECTS

- **Population Flappy:** A Flappy Bird-like simulation in which a genetic algorithm learns, in real time, to master.
- **Limen:** A utility for saving and reading valuable information using AES encryption.
- **DefenceMatrix:** A security solution for Linux servers including automatic firewall setup, password complexity checking, rootkit detection and attack visualization.
- **Admonere:** An android app for automating the process of reminding others of events, things to do, and more using SMS.
- **Synkronized Coding:** A script that enables multiple coders to work on the same file at the same time, in real time.
- **Custom Quadcopter:** I built a custom quadcopter piece by piece, it uses the MultiWii flight control system.
- **Custom Computers:** I have built several custom desktop computers for myself, my friends, and even my old high school.

## INTERESTS & ACTIVITIES

- **Linux:** I mainly use debian based distros and am very comfortable with the command line.
- **Cross-cultural experiences:** Have lived in three countries and have traveled to Europe and South America.
- **Personal fitness:** I have enjoyed playing on more than five different sports teams over the course of my high school career.
- **Music:** I have played the alto saxophone in six different bands throughout my time in secondary school.