

# Thomas Janna

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## Education

### Carleton University

#### Bachelor of Computer Science (Honours) in Network Computing, Co-op

Ottawa, ON  
Sept. 2019 – Apr. 2024

- 12.0 / 12.0 GPA and recipient of entrance scholarship for 90%+ high school average
- Special course interest in Distributed Computing, Operating Systems, Computer Architecture and Compiler Construction
- Transfer from Queen's University in 2021 - GPA: 4.23/4.30, Dean's Honour List, Excellence Scholarship

## Work

### ChangeRoom

#### Software Developer

Ottawa, ON  
May 2021 – Aug. 2021

- E-commerce platform for sustainable and ethically sourced clothing featuring 15 retailers
- Engineered features, such as a gender based recommendation system, using MongoDB, Express and React Native which improved the overall user experience and navigation
- Implemented the automatic translation of dynamic page content using the Google Cloud API for over thousands of product descriptions to expand localization efforts and reach users from different regions
- Maintained the Android releases by working with the Google Developer Console to package and distribute for Google Play

### Real-Time Engineering & Simulation Inc.

#### Software Developer

Ottawa, ON  
May 2020 – Aug. 2021

- Developed a systems networking protocol for embedded devices in C to be used in the Brighter Sight project, a wearable communications platform for first responders
- Focus on studying and implementing modern security practices and cryptographic methods to build a private system
- Ported the C library to Android and Wear OS using JNI and NDK to expand the functionality and availability of the protocol
- Configured and secured the company's *GitLab* git server and instructed coworkers on generating and using SSH keys

### Queen's University

#### Teaching Assistant

Kingston, ON  
Sept. 2020 – Apr. 2021

- Teaching Assistant for Introduction to Computing Science II (CISC124), during the winter 2021 semester
- Teaching Assistant for Discrete Mathematics for Computing I (CISC102), during the fall 2020 semester
- Graded assignments and held weekly office hours to help supplement student instruction

### Haiku

#### Open Source Contributor

Github

- Contributed to the Haiku operating system project by porting software to the official HaikuPorts repository
- Created standard build recipes in bash for programs such as the *bam* build system and the Python library *wrapt* and implemented platform specific patches that I proposed to the upstream projects

## Skills

### Languages:

C, C++, Python, Java, C#, JavaScript, HTML, CSS, Bash, x86/ARM Assembly,  $\text{\LaTeX}$

### Libraries:

Qt, React Native, Express, Mongoose, OpenSSL, Selenium, Libsodium, SDL, JavaFX

**Development Tools:** Android SDK, CMake, GDB, Valgrind, Git, Docker, Google Cloud API, Mailchimp Marketing API, Arduino

## Additional Interests

- Administering and maintaining a general purpose home server for education and exercise
  - Setup Apache HTTP server and certbot certificate generation
  - Experimented with a WireGuard VPN server and dnsmasq as a local DNS server
  - SMB (Samba) and AFP (Netatalk) for a local network drive
- Experience building Linux kernel modules in C by creating device files and their filesystem implementation details
- Currently building a BitTorrent client in C++ using Qt for cryptography and networking
- Participant in QCTF, a "capture the flag" computer security/hacking contest hosted by Queen's University
- Attended DEF CON 26 in Las Vegas, international computer hacking and cybersecurity conference
- Drummer in semi-professional rock band, Space Park, with music distributed on all streaming platforms