

# 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 cumulative GPA and awarded entrance scholarship
- Special course interest in Distributed Computing, Operating Systems, Computer Architecture and Compiler Construction
- Transfer from Queen's University in 2021 with 4.23 / 4.30 cumulative GPA, Dean's Honour List, Excellence Scholarship

## Work

### NXP Semiconductors

Ottawa, ON

#### Design Verification Engineer Intern

May 2022 – Dec. 2022

- Contributed to hardware verification for NXP's digital networking IP that is currently integrated in 6 actively developed SoCs for automotive and industrial processing
- Constructed networking tests in C and C++ to be executed in simulation and interacted with the hardware design team in order to resolve bugs before tapeout
- Developed software tools to build a more robust testing framework and assist in the rapid creation of future tests
- Verifying implementation design for IEEE802.1 Time-Sensitive Networking specifications which are differentiating SoC features

### ChangeRoom

Ottawa, ON

#### Software Developer

May 2021 – Aug. 2021

- E-commerce platform for sustainable and ethically sourced clothing featuring 15 retailers
- Engineered features, such as a product favourite shortlist 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.

Ottawa, ON

#### Software Developer

May 2020 – Aug. 2020

- 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

Kingston, ON

#### Teaching Assistant

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

## Skills

**Languages:** C, C++, Python, C#, Java, HTML, PHP, CSS, JavaScript, SQLite, Bash, Haskell, Smalltalk,  $\text{\LaTeX}$   
**Libraries:** Qt, OpenSSL, jQuery, React Native, Express, Mongoose, Selenium, Libsodium, SDL, JavaFX  
**Development Tools:** Android SDK, CMake, GDB, Valgrind, Git, Docker, Google Cloud API, Mailchimp Marketing API, Arduino

## Additional Interests

- Open source contributor to the Haiku operating system project by porting software to the official HaikuPorts repository. Created build recipes in Bash and platform specific source code patches which I submitted to respective upstream projects
- Administering and maintaining a homelab for personal utility, education and exercise running various NAS services, a VPN server and experimenting with a DNS server
- Experience building Linux kernel modules in C such as creating device files and their filesystem implementation
- Drummer in semi-professional rock band, Space Park, with music distributed on all streaming platforms