

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

Ciena

Ottawa, ON

DevOps & Tools Software Engineer Intern

Jan. 2023 – Apr. 2023

- Supporting integration and releases for Ciena's router operating system using Yocto Linux with pipelines in Jenkins
- Porting legacy build automation scripts from Python 2 to Python 3

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
- Verifying implementation design for IEEE802.1 Time-Sensitive Networking specifications which differentiate NXP's SoCs
- Designed networking tests in C and C++ in both pre-silicon simulation and post-silicon validation environments and discovered several critical bugs for which I worked alongside the hardware design team to implement and verify fixes
- Constructed a Verilog model of an improved hash table algorithm which produced an order of magnitude less insert collisions than the previous algorithm being used in the hardware implementation

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) and Discrete Mathematics for Computing I (CISC102)

Skills

Languages: C, C++, Python, C#, Java, HTML, PHP, CSS, JavaScript, SQLite, Bash, Haskell, Smalltalk, ~~TeX~~

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