THOMAS **VY**

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EXPERIENCE

WINDOWS C++ SOFTWARE DEVELOPER II CISCO SYSTEMS CANADA, LTD.

OCTOBER 2021 – PRESENT (4.5 YEARS)

- Designed and developed enterprise security features across Endpoint Data Loss Prevention, Endpoint Security, and DNS protection products on Windows.
- Implemented Windows services and child processes to handle critical background workloads, ensuring high reliability, maintainability, and secure lifecycle management.
- Achieved up to 1000% performance improvement in DLP file exclusion evaluation by designing and implementing trie-based data structures.
- Led and coordinated the port of a large x64 C++ codebase to ARM64EC, ensuring feature parity and performance stability across endpoint platforms.
- Improved ZIP file scanning performance by 23% in endpoint security workflows by eliminating unnecessary temporary file writes.
- Redesigned the in-house acceptance testing framework using Google Mock, replacing log-based validation and reducing false positives by 80%.
- Enhanced Windows security by implementing DACL tamper protection monitoring for critical Windows securable objects.
- Designed and deployed Windows-based VMs and Docker environments on AWS and Azure using Terraform, enabling automated test networks and CI/CD integration via AWS CodeBuild.

WINDOWS C++ SOFTWARE DEVELOPER INTERN GEOSLOPE INTERNATIONAL LTD.

MAY 2019 – AUGUST 2020 (1.5 YEARS)

- Architected and implemented GUI dialog boxes and control logic using MVC, C++, and MFC, improving user experience for critical application workflows.
- Drove UI quality improvements by designing and integrating Squish GUI automated tests into nightly builds, significantly increasing defect detection.
- Modernized the build and CI/CD pipeline by migrating from Team Foundation Server to Azure Pipelines, resulting in 20% faster build times and more reliable builds across teams.
- Championed adoption of Git/GitHub by mentoring team members through technical presentations and hands-on guidance.

LINUX C++ SOFTWARE TEAM MEMBER UNIVERSITY OF CALGARY'S SOLAR CAR TEAM

OCTOBER 2018 – JANUARY 2021 (2.5 YEARS)

- Enhanced in-vehicle software functionality by developing a Qt/C++ audio player, gaining deeper expertise in the full software development lifecycle.
- Defined and documented a cross-platform build process for compiling applications from Ubuntu to Raspberry Pi OS, improving portability and development efficiency.
- Mentored new recruits on C++ and Git/GitHub, delivering technical presentations, performing code reviews, and guiding pair programming sessions to accelerate onboarding.
- Strengthening team collaboration and soft skills by leading recruitment interviews, coordinating code architecture, and planning maintainable software structures with teammates.

EDUCATION

BACHELOR OF SCIENCE IN SOFTWARE ENGINEERING UNIVERSITY OF CALGARY

SEPTEMBER 2016 - MAY 2021

- Graduated with distinction and completed an internship program, achieving a 3.89 GPA.
- Completed advanced coursework in Data Structures & Algorithms, Operating Systems, Database Management Systems, Graphics Programming, Networks, and Computer Security, providing a strong foundation for system-level and security-focused development.

PROJECTS

JEOPARDY

GITHUB.COM/THOMASVY/JEOPARDY

- Developed a full-stack web application enabling users to create custom Jeopardy boards and track team scores in real time.
- Built using T3 Stack technologies, including Docker, tRPC, Drizzle SSE, Next.js, React 19, and Tailwind CSS, implementing scalable, maintainable, and responsive architecture.

INVENTORY TRACKER

GITHUB.COM/THOMASVY/INVENTORYTRACKERV2

- Developed a full-stack web application for tracking user inventory, managing orders, and analyzing sales trends to support data-driven decision-making.
- Built using the T3 Stack, including Prisma, tRPC, Next.js, React, and Tailwind CSS, implementing a scalable and maintainable frontend and backend architecture.

MOSHIRLEARNING

GITHUB.COM/THOMASVY/MOSHIRLEARNING

- Architected and implemented a client-server application enabling teachers and students to manage courses efficiently.
- Built using Java, MySQL, and TCP sockets, designing both backend and client-side functionality.
- Recognized with an Outstanding Final Project Award (2018) for technical excellence and project delivery.

SPACESHIP GAME

GITHUB.COM/THOMASVY/SPACESHIP-GAME

- Developed a 2D video game demonstrating a strong understanding of the GPU rendering pipeline, vertex manipulation, animation frames, and object life cycles.
- Implemented interactive gameplay where users control a spaceship to collect items while avoiding obstacles, emphasizing real-time graphics and performance.
- Built using C++ and OpenGL, applying modern graphics programming techniques and efficient resource management.

P2P MESSAGING APP

GITHUB.COM/THOMASVY/P2P-MESSAGING-APP

- Architected and implemented a peer-to-peer messaging application enabling secure and direct text communication between users.
- Designed the networking layer to register peers via TCP and communicate directly using UDP, applying thread programming to handle concurrency efficiently.
- Built using Python 3 with TCP/UDP sockets, demonstrating expertise in network programming, concurrency, and real-time communication.

CERTIFICATIONS

CERTIFIED SCRUMMASTER (CSM) **SCRUM ALLIANCE** APRIL 2023

GIAC SECURITY ESSENTIAL CERTIFICATION (GSEC) **GIAC CERTIFICATIONS** JAN 2023