# Michelle Nguyen

michellenguyen.vy@gmail.com
+1-587-700-8498
michellevynguyen.com
github.com/michelle-n
linkedin.com/in/michellevynguyen
</> C++, Python, Java

## Education

**Bachelor of Science (BSc) Honors in Computer Science | University of Calgary** Sep. 2015 – Jun. 2021
**Bachelor of Science (BSc) Honors in Biochemistry | University of Calgary** *Calgary, Alberta, Canada*

- First Class Honors | Computer Science Major GPA: 4.00/4.00 | Biochemistry Major GPA: 3.68/4.00 | Overall GPA: 3.85/4.00
- Courses: Algorithms and Data Structures, Distributed Algorithms, Information Theory, Operating Systems, Networks, Security.

## Experience

**Undergraduate Researcher (Project: Post-Quantum Isogeny-Based Cryptography)** Sep. 2020 – May 2021
*Department of Computer Science, University of Calgary* *Calgary, Alberta, Canada*

- Investigated optimizations to a cryptographic protocol by analyzing over 50 publications to recover two alternative algorithms.
- Spearheaded experiments to compare and enhance the run time of computations by initiating the development of Magma code implementing the studied cryptographic protocol and its two alternative algorithms.

**Teaching Assistant (Course: Operating Systems)** Sep. 2020 – Apr. 2021
*Department of Computer Science, University of Calgary* *Calgary, Alberta, Canada*

- Led tutorials of 45-55 students by creating presentations and C/C++ programming exercises for 96 one-hour tutorials.
- Assessed and provided constructive feedback for over 200 C/C++ assignments by testing and debugging students' code.
- Streamlined the evaluation of assignments by 30% in time, by automating and multithreading the execution of test scripts and writing bash scripts to run on each assignment.

**Software Developer** May 2020 – Aug. 2020
*VIKAMI Canada* *Calgary, Alberta, Canada*

- Consulted with business owners and deployed an e-commerce website built on WordPress, using PHP, JavaScript, HTML, and CSS; building the business' online presence and resulting in a 20% increase in online sales in the first month.
- Increased the accuracy of shipping estimates by 10% by implementing algorithmic improvements, while keeping scalability in mind.

**Summer Undergraduate Researcher (Project: Effects of Heavy Metals on Lipids)** May 2018 – Aug. 2018
*Department of Biological Sciences, University of Calgary* *Calgary, Alberta, Canada*

- Reduced time spent on manual data parsing by 80% by using Python, Excel, and MATLAB to automate data entry and plotting.
- Awarded with a Natural Sciences and Engineering Research Council of Canada - Undergraduate Summer Research Award.

## Projects

More projects and details: michellevynguyen.com#portfolio

**dpfplusplus - A C++ Implementation for Cryptographic Distributed Point Functions** Mar. 2021 – Apr. 2021
*michellevynguyen.com/portfolio/dpfplusplus.html* *Calgary, Alberta, Canada*

- Maintained and documented the to-be open source codebase of a cryptographic primitive's C++ implementation.
- Enhanced user-friendliness by establishing three tutorials on how to get started with the codebase, using code examples.

**uScholar - A Web Application for Academic Journal Submissions** Feb. 2020 – Apr. 2020
*github.com/jonsantos/uScholar* | *michellevynguyen.com/portfolio/uscholar.html* *Calgary, Alberta, Canada*

- Collaborated with an agile team to create a web application for academic journal submissions. Built using JavaScript and Firebase.
- Optimized database efficiency by designing the structure to reduce nesting and flatten data structures.

**Jumpy Man - A Desktop Platformer Game** Jul. 2019 – Aug. 2019
*github.com/michelle-n/JumpyMan* | *michellevynguyen.com/portfolio/jumpyman.html* *Calgary, Alberta, Canada*

- Designed and constructed a desktop game in 6-weeks while learning Java, with GUI built using JavaFX.
- Improved scalability by restructuring 25 classes to reduce coupling and increase cohesion.

## Skills

**Proficient with:** Developing in C++, Python, and Java; working in Unix, Linux, and Windows environments; using Git version control.
**Previous experience with:** Developing in C, Assembly; parallel programming and multithreading; packet analysis with Wireshark.
**Knowledge of:** Virtual memory, scheduling, IPC, POSIX, gdb, valgrind, UNIX scripting and shells, bash, TCP/IP, UDP, socket programming, REST services, Jenkins, Docker, Kubernetes, virtual machines on Google Cloud Platform, NoSQL databases, agile methodologies.

## Clubs and Interests

**Information Security Club | University of Calgary** - Member Mar. 2020 – Apr. 2021
**Competitive Programming Club | University of Calgary** - Member Sep. 2019 – Apr. 2021
**Science Mentorship Program | University of Calgary** - Mentor Sep. 2017 – Apr. 2019
**Cycling Team | University of Calgary** - Founder/President Sep. 2016 – Apr. 2018