

Tung Lam Hoang

2205 Lower Mall, Vancouver, BC, V6T 1Z4 | lamht1998@gmail.com | 604.367.2051 | <https://tunglam2101.github.io>

Technical skills

Programming Languages: C, C++, Java, Python, Verilog, SystemVerilog, ARM Assembly, R, HTML

Software Knowledge: IntelliJ, Microsoft Visual Studio, Qt Creator, Arduino IDE, RStudio, ModelSim, Quartus II, Intel Monitor Program, JUnit, Valgrind, Bootstrap 4, Git, Apache 2, Microsoft Office Suite, Windows OS, Linux (Ubuntu)

Hardware/Lab Knowledge: Soldering, logic designing, bread-boarding, operating lab equipment (Oscilloscope, Multimeter, etc.), preparing & presenting lab reports

Education

University of British Columbia

September, 2016 – May, 2022

Bachelor of Applied Science - Computer Engineering

Co-op: Completed 0/4 work terms; Available 4-8 months beginning January 2020

Key Computer Engineering Courses:

- Digital Systems Design (84% average)
- Basic Algorithms and Data Structures
- Basics of Computer Systems
- Principle of Software Construction

Technical Projects

Brick Breaker Game, FPT Telecom, IOT Department 

August, 2019

- Devised a simple game on a development kit running on ARM Cortex-M3 (STM32L).
- Implemented program using Qt Creator and Object-oriented C/C++ (GNU Arm Embedded Toolchain) based on Event-Driven Architecture.
- Integrated the program into a written framework called Active Kernel.
- Ensured program's stability by using Valgrind to carefully fix any memory leakage and inspected debugging logs to detect any long-running task that might enable fatal errors.

ARC4 Decryption, University of British Columbia 

June, 2019

- Devised an ARC4 Decryption Circuit in SystemVerilog.
- Deployed and tested on a DE1-SoC board running on ARM Cortex-A9 using Quartus II 17.1.
- Implemented the circuit strictly under Handshaking (Ready-enable) Microprotocol and using RAM blocks from Quartus II 17.1's on chip memory generation.
- Ensured program's correctness using Intel Monitor Program to read system's HEX memory along with a self-written Python program to decode encrypted messages from HEX to ASCII.
- Confirmed program's stability using self-written testbenches in SystemVerilog and ModelSim to inspect waveforms.

The Art of Compression, University of British Columbia

March, 2019

- Collaborated with a colleague to implement a C++ program that manipulates images' pixel's RGB, Hue values to create stunning a mosaic-like effect.
- Devised the program using a written class called HSLAPixel that allows pixels manipulation and based on QuadTree data structures.
- Ensured program's stability by using Valgrind to carefully examine and fix any memory leakage.

Mobile Vault, University of British Columbia

March, 2019

- Collaborated with six group members to devise a portable security vault that can be controlled via web interface in Python, HTML using Raspberry Pi 2 Model B.
- Implemented functionalities of real-time image capture, passcode-controlled lock system using sensors, alarm system and a camera.
- Designed the web's UI, interaction with hardware components using URL calls (using simple JavaScript and Ajax)
- Tested hardware verifying correct functionalities of sensors using Python and breadboards.
- Helped Backend Team set up the server using Apache 2 and Django.
- Created detailed documentation and prepared a slide for group's product presentation.

Volunteer Work Experience

FPT IOT Department (FPT Telecom), Ho Chi Minh City, Vietnam

July, 2017 – August, 2017

Intern

- Worked with an instructor to understand more about embedded systems, object-oriented C/C++ programming and various applications/prototypes the company offers.
- Designed two embedded games based on a provided framework called Active Kernel on a n embedded development kit running on ARM Cortex-M3.

FPT Play (FPT Telecom), Ho Chi Minh City, Vietnam

July, 2017 – August, 2017

Movie Translator, Content Reviewer

- Collaborated with Content Team of seven professional colleagues in the field of Communication and Media to manage the content of FPT Play's webpage.
- Translated Vietnamese subtitles for various Asian movies and managed the Summary and Review sections of a Chinese TV series.
- Updated and verified the live schedules of various TV shows that were running on FPT Play's webpage.

Awards

UBC First Year Dean's Honour List

2017

Outstanding International Student Award

2016

Interests & Activity

- Algorithms & Data structures
- Embedded systems
- Mechanical keyboards
- Physics - Quantum Physics and Astrophysics