Ethan Chan

Contact

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Languages

C/C++/C#
Swift
Python
Html/CSS
JavaScript
PHP

Tools

Xcode
Git / Github
Cocoa Pods
Tesseract
Firebase
Unity
SolidWorks
AutoCAD
Siemens NX
NI Multisim

Education

Systems Design Eng. (2021)
Ranked 2nd in Class
Dean's Honours List

Relevant Courses

Digital Systems
Data Structures and Algorithms
Digital Computation
Software Design

Hobbies

Model Aeronautics (R/C)
Avid Golfer
Drone Flyer
Robotic Kits

Projects

Data Structures Companion   (Native iOS, Coco Pods, GitHub)
- Developed iOS companion app for the existing introductory Data Structures course used across multiple Waterloo engineering programs
- Created visual aids and explanations for Data structures and Algorithms
- Produced with support of University of Waterloo Professor

NoCaptcha   (Arduino Uno, Arduino C/C++)
- Hardware version of 'are you a robot' implemented into a safe
- Required user to sum a series of numbers to prove liveliness
- Constructed low resolution display using led matrix
- Encrypted digital signals from keypad using logic gates and sent to Arduino for decoding through hardware interrupts
- Recreated built in timer functions and handled overflow

Elevator Control | Waterloo Eng. Competition   (UML Diagrams, Pseudocode)
- Architected algorithm to optimize passenger elevator wait times

Puzzle Design   (SolidWorks)
- 3D printed a custom designed puzzle
- Utilized sliding track system to affix pieces to center core

Machine Woodworking
- Expertise with a variety of power tools including lathe, milling machinery
- Advanced knowledge of crafting techniques practiced through recreational projects including a computer desk, r/c car stand, and personal storage box

Experience

Undergraduate Research Assistant   (Jan. 2018 – Present)
Prof. Igor Ivkovic, Waterloo, Ontario
- Developing augmented reality/ mixed reality content for educational visualizations

Methods and Manufacturing Change Management Intern   (Sept. – Dec. 2017)
Bombardier Aerospace, Toronto, Ontario
- Developed web database to track milestones in Preflight and Delivery
- Implemented Tesseract OCR on custom program to search archived documents
- Oversaw change harmonization process with department focals to manage implementation process
- Maintained Microsoft Access Databases, developed Excel sheets to visualize data patterns and deployed SAP transactions

Information Systems Analyst and IT Administrator   (January - April 2017)
Perry + Currier Inc. – Intellectual Property Law Firm, Toronto, Ontario
- Programmed, maintained, and advanced the firm's software functionality, performance, and scalability
- Increased efficiency of patent, trademark and copyright procurement processes
- Architected workflows consistent with IP while incorporating rigid eng. practices
- Maintained firm hardware including network infrastructure and security updates
- Supported business continuity planning, IT infrastructure and data confidentiality, security and integrity measures on local and cloud base storage

Summer Position: Quality Control Technician   (July 2015 - August 2016)
Storageflex Inc, Markham, Ontario
- Installed software to diagnose health of over 250 hard disks within company's ISO standards
- Recovered company's investments through recycling of hard disks for warranty claims with vendors
- Trained in configuration of a Windows and MAC based SAN NAS Storage Appliances