Hanlin Cheng

Systems Design Engineering

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Experience

Information Technology Intern
VMware Tanzu (Formerly Pivotal Software) — Winter 2020

Pair-programming with TDD, iterative planning, and agile methodoligies for an internal inventory check-out system using **ReactJS, React Router,** and **Jest**

Wrote and deployed **Javascript** programs to automate the app migration process for **200+** internal applications from Pivotal to VMware

Developing a Slack chatbot application in **Cloud Foundry** and gaining exposure to cloud computing architecture with **Python** scripting

Software Development Intern
Sunnybrook Research Institute — Summer 2019

Revamped **Matlab** data pipeline scripts into C++ parallel computations with the **CUDA Driver API** to rework focused ultrasound treatment-monitoring program

Developed **CUDA kernels** to reduce memory transfer requirements by **48 times**

Conducted **NSight Visual Profiling** analysis to determine pipe utilization metrics and bottlenecks to reduce execution dependency

Research Assistant
York University I.D.E.A. Laboratory — Summer 2018

Prototyped demonstrations in **SOLIDWORKS** of silicone-ethanol soft actuators as artificial muscle through motorized applications programmed with an **Arduino Uno**

Projects

ecolens Ellehacks 2020
Most Innovative Hack Honourable Mention

Designed and developed an end to end finished **Android** application that views a given garbage item through a real time video stream and suggests creative crafts

Built using Android Studio and implementing **Firebase ML** and **Google Cloud Auto ML** for image detection

Western for Ooch Hack with Heart SheHacks 2020

Developed a MVP for Western's Chapter of Camp Ooch's website as part of the SheHacks **Hack with Heart** initative

Designed in Figma and then implemented with **ReactJS** and **Bootstrap**, along with a **Python** scraper using **BeautifulSoup**

Allertgen DeltaHacks 2020

Developed a **Flask** web application with **Python** implementing **GCP's Vision, AutoML,** and **Translation** APIs in **Google Cloud App Engine** that identifies if different food items are allergy risks

Urssa Miner

Built an autonomous robotic soil sampler with an **Arduino Mega, RaspberryPi and OpenCV**

Skills

Languages
Java
JavaScript / Typescript
C++
HTML
CSS
Intermediate Python

Tools/Frameworks
Git
React
InDesign
Figma
CUDA

Awards

Chandrashekar Engineering Entrance Scholarship

President Scholarship of Distinction

Education

University of Waterloo
Candidate for BASc.
Systems Design Engineering
Graduating 2024 (Expected)

Relevant Coursework: Digital Computation (C++), Intro to Design

Activities

Accelerator Project, Civic Tech Toronto
Developing an MVP website with Figma UI wireframing and **Django** for local-non profit focusing on mentoring underhoused youth

UWaterloo Intramural Soccer

Interests

San Antonio Spurs, History @forcontext Podcast, Board Games, Hiking, Watercolour