CAROL XU

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EXPERIENCE

Information Systems Summer Student
Teledyne DALSA

📅 Aug 2018   📍 Waterloo, ON

- Worked alongside UW Co-Op students in a one-month internship.
- Implemented and investigated the effectiveness of template matching algorithms on images captured on a Digital Microscope using OpenCV and Python.
- Used image processing and template matching to explore the development of an automated labeling system.

Lead Programmer
Robotics Team 4814

📅 Jan 2018 – Jun 2019   📍 London, ON

- Applied principles of OOP to implement robot functionality and controls using Java and FRCLib.
- Implemented and tested a PID system for robot arm motion.
- Coordinated with the mechanical and business teams to lead project to completion.

PROJECTS

WSMAC

📅 Sep – Dec 2020

A device making use of natural language processing (NLP), STT and TTS, and Raspberry Pi-based hardware to analyze grammar in spoken sentences and provide real-time feedback.

- Pre-processed textual data and evaluated the performance of 3 different ML models.
- Trained Google's transformer model BERT on the CoLA Dataset to detect grammatical errors, attaining 83% validation accuracy.
- Collaborated in a team of 5 to integrate and present the final product.

HomeGrown

📅 July 2020   📍 Hack3

A webapp designed to be a platform for small and local businesses to promote themselves directly to and interact with users in their area.

- Designed the frontend and layout of the website using static HTML and React.JS.
- Created the search filter function on the business listings page.

Tip The Scales

📅 June 2020   📍 SE Community Hackathon

A machine learning-based webapp that distinguishes between four different types of 7-note scales being played.

- Generated a dataset of 1000+ scales using Keras, and converted .wav files to spectrograms using PyPlot and LibROSA.
- Trained on the dataset using a neural network made from the TensorFlow Keras library.
- Developed the frontend of the webapp using HTML/CSS.

SKILLS

Languages: Java, Python, C, C++, HTML/CSS, JavaScript

Frameworks: React.JS, React Native, Unity, TensorFlow, OpenCV

General: Machine Learning, Git, Game Development, Graphic Design, Teamwork, Organization

ACHIEVEMENTS

Women in SE Representative

📅 Sep – Dec 2020   📍 Waterloo, ON

- Elected representative of the UWaterloo WiSE Club.
- Responsible for organizing various events throughout the term, including 5 Game Nights and an Upper-Year Q&A Panel.

Second Place Overall

📅 July 2020   📍 Hack3

- Placed Top 2 Overall out of 57 teams at the Hack3 2020 hackathon with the project HomeGrown.

SDG Category 4 Winner

📅 July 2020   📍 SET.Hacks()

- Awarded to 1st place project addressing Category 4 UN Sustainable Development Goals during SET.Hacks().

CERTIFICATIONS

DeepLearning.AI TensorFlow Developer Specialization
Laurence Mooney, Andrew Ng

📅 Mar 2020   📍 Coursera

Machine Learning
Andrew Ng

📅 Dec 2019   📍 Coursera

EDUCATION

Software Engineering (BSE) Candidate
University of Waterloo

📅 2020 – 2025