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Nicholas Pysklywec

Portfolio
GitHub
LinkedIn

EDUCATION

Bachelor of Software Engineering   **September 2019 - In Progress**
Western University

- Achieved Honor Roll standing based on first, second, third year performance
- Received the Western Scholarship of Excellence upon entry (above 90%)

SKILLS

Languages	Python, Java, JavaScript, HTML/CSS, C#, C++, SQL
Frameworks	PyTorch, Sklearn, TensorFlow, React, React Native, Express, Flask, TypeScript, Numpy
Technologies	Docker, Kubernetes, GCP, AWS
Concepts	Machine Learning/AI, Agile Methodologies, Web Principles, Leadership of Software Projects, Data Structures and Algorithms, Relational Databases, Security Fundamentals, Networking, RESTful APIs

WORK EXPERIENCE

Software Engineer Intern   **May 2022 - Sept 2022**
Seleste   *Remote*

- Build a React Native Module used to interface between React Native application and Seleste Product
- Implemented a Figma mockup to build the core pages and features of product using TypeScript and React Native
- Implemented Accessibility into application extensively in partnership with user demographic

Virtual Force Analyst   **Oct 2021 - April 2022**
CANSOFCOM   *Remote*

- Developed web interface application utilizing Elasticsearch and React Native
- Conducted machine learning experiments with tools such as Labelbox and PyTorch
- Performed research on data, reported detailed results to domain experts

NSERC Research Student   **May 2021- Sept 2021**
University of Toronto Earth Sciences   *Remote*

- Produced new research results that quantitatively demonstrate the processes of lithospheric dynamics to explain enigmatic surface tectonics.
- Iteratively compiled models on Niagara Compute Cluster, gaining exposure to Linux command line environments and scripting

Computational Projects

Exercise Form Correction
In-progress capstone application that corrects user exercise form. Flutter is used to develop an application for iOS and Android. The backend was created with Flask, and built into a docker container which is hosted on AWS. The backend uses Tensorflow's posenet model for keypoint recognition, then further uses a decision tree model to determine form correctness with SkLearn.

KnowYourAlgo
Algorithm visualization game to teach players about algorithms. The website and game was built with JavaScript with framework React. The backend was created using Flask.

Peer to Peer Image Sharing Network
p2p network built from scratch with JavaScript. Allows for multiple peers, each peer can search for images in the network and get them sent to them.

Game Store Management Tool
A game store management site for a hypothetical video game store manager. React.js was used to build a clean frontend interface. Express was used to develop a backend, which is hosted on Google Cloud.

Client-Server Image Network
Client server network architecture implementation. Server hosts multiple images, client asks server for image. Implemented specific packet objects in JavaScript.

Temperate Ambient Light
Ambient light system prototype project. A light would change color based on temperature of the present environment and current season. Coded in C.

Video Summary Application
Designed and developed a framework for storing and analyzing videos. Built using React.js for the front facing application, with a Flask backend and ElasticSearch for user queries.

Object Detection of Military Relevant Objects
Developed an object segmentation model built on Detectron2 for specific objects. Objects were annotated via Labelbox and trained on. Different object detection methods(NMS, etc.) were applied to improve model performance, alongside feature augmentation.

2D RPG in Unity
Designed and developed a 2D RPG game in Unity using C# and the software development lifecycle. The application was planned out beforehand with design documents, then built in Unity over the term.

Publisher Database Application
Developed a Java GUI application for a hypothetical client, with functionality to interact with a SQL database to track various Publisher attributes.