Lawrence Pang

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SKILLS

Machine Learning
Data Science
Web Development
Algorithms and Data Structures
Object-Oriented Programming
Image Processing

TECHNOLOGIES

LANGUAGES

Python • Java • C++ • JavaScript • MATLAB • HTML5 • CSS3 • R • Jupyter Notebook • Scala • Solidity • SQL • Bash

FRAMEWORKS AND TOOLS

Git • Django • Node • TensorFlow • Pandas • Keras • Flask • Express • MongoDB • Apache Spark • OpenCV • Synaptic • JQuery • Socket.io • Amazon Alexa

EDUCATION

UNIVERSITY OF WATERLOO

Computer Engineering
Expected Jul 2022 | Waterloo, ON
GPA: 97 / 100

MARC GARNEAU C.I.

TOPS program
Jul 2017 | Toronto, ON
GPA: 97 / 100
SAT: 2400/2400

COURSEWORK

Algorithms I & II • Princeton
Big Data With Scala and Spark
Machine Learning • Stanford
Deep Learning • Google
Data Analysis With R • Facebook
Intermediate C++ • Microsoft
Reinforcement Learning • Yandex

AWARDS

Team Canada
• International Linguistics Olympiad
National Champion
• Canadian Senior Mathematics Contest
Silver Medal
• Don Mills Programming Gala

EXPERIENCE

WATONOMOUS | Core Perception Team

Sep 2017 – Present | Waterloo, ON

- Part of autonomous car team that will compete in GM's AutoDrive Challenge
- Using **convolutional neural network** in **TensorFlow** with **OpenCV** to segment and classify traffic signs

SUNNYBROOK RESEARCH INSTITUTE | Software Intern

Jul 2016 – Sep 2016 | Toronto, ON

- Created **MATLAB** software to automatically detect anatomical structures in MRI images to treat uterine fibroids
- Used **image morphology** techniques and **unsupervised learning algorithms**
- Increased efficiency of segmentation process by 80-90%

INTERNATIONAL LANGUAGES PROGRAM | Office Assistant

Sep 2013 – Jun 2017 | Markham, ON

- Automated creation of educational materials in **VisualBasic**, reducing time spent by 90%

PROJECTS

SOCCER SENTIMETER | Python/Django

- Created dynamic website tracking Twitter sentiment of soccer teams
- Used **natural language processing** and various APIs (Google Maps, Twitter, Highcharts, MediaWiki, TextBlob)
- Created clean, responsive design and generated an **SQLite3** database

CHROME TAB PREDICTOR | JavaScript/Synaptic

- Chrome extension using a **neural network** to predict and open tabs
- Worked in a team of two to parse and organize data and implement a neural network in **Synaptic**

INTELLIGENT LIGHTING SYSTEM | C++

- Created an intelligent mood lighting project running on a **Linux embedded system** in a team of three
- Designed and implemented **facial detection** and **image morphology** algorithms from scratch

WORM COLONY SIMULATION | Java

- Simulated neural evolution with a novel approach combining **synaptic time-dependent plasticity** and an **evolutionary algorithm**
- Demonstrated ability to learn about various environmental inputs

HACKATHONS

INTERVUE | Hack Princeton 2017

- Created interview assistant using **Amazon Alexa** with backend of **Node**, **Express**, and **socket.io**
- Analyzed speech with **natural language processing** and **IBM Watson**
- Data stored with **MongoDB** and presented with **chart.js**

SOFA SEARCH | Hack the North 2017

- Recommendation system for sofas and other furniture
- Used **reinforcement learning** on a **convolutional neural network** in **Keras** on a **Tensorflow** backend to identify features from images of furniture
- Connected front and back end using **Flask** framework