

Lawrence Pang

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SKILLS

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

TECHNOLOGIES

LANGUAGES

Python • MATLAB • Java • C++ •
JavaScript • HTML5 • CSS3 • R •
Jupyter • Arduino • Scala • Solidity •
SQL • Processing • Bash • VisualBasic
• \LaTeX

FRAMEWORKS AND TOOLS

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

COURSEWORK

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

AWARDS

TEAM CANADA

- International Linguistics Olympiad

NATIONAL CHAMPION

- Canadian Senior Mathematics Contest

SILVER MEDAL

- Don Mills Programming Gala

EDUCATION

UNIVERSITY OF WATERLOO

COMPUTER ENGINEERING

Expected Jul 2022 | Waterloo, ON

MARC GARNEAU C.I.

TOPS PROGRAM

Jul 2017 | Toronto, ON

GPA: 97.0 / 100

SAT: 2400/2400

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 **Python** and **C++** 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%
- Acted as liaison between office administration, teachers, and students

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

WORM COLONY SIMULATION | JAVA

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

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**

GRAPHING CALCULATOR | JAVA

- Created a graphing calculator with calculus and statistical tools
- Implemented **reverse polish notation** and **Shunting-Yard algorithm**

HACKATHONS

INTERVIEW | 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