ETHAN LIANG

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SKILLSET

Languages
Python Java C# C++
Javascript PHP SQL
Go Objective-C Bash

Frontend
ReactJS Angular 1 SASS
jQuery Bootstrap webpack

Backend
Node.js Apache Server

Database
MySQL SQL Server Hive

Tools
numPy sciPy PySpark AWS
Hadoop Docker Caffe

AWARDS

Hack the North 2016
Grand Winner
Microsoft Azure API Winner

PennApps XIII
Capital One API Winner

Nordic IoT Hackathon
Top 10 Teams

University of Waterloo
Research Award

EDUCATION

University of Waterloo
Systems Design Engineering

Sep 2015 - Apr 2020 (Expected)

- Cumulative GPA 3.7
- Scholarship of Distinction

WORK EXPERIENCE

Software Developer | SMART Technologies
Sep - Dec 2016 **Calgary, AB**

- Built multiple ETL pipelines to move backlogged connection data from mixpanel into **Hive** on EC2 with **Python** and kickstarted the Data Science department
- Trained a Naive Bayesian model in **Spark** on **Hadoop** to discover a critically high rate of dropped connections to SMART boards on devices running on iOS 9.1
- Led a team of full-time developers on creating a sub-**50 MB** viewer application for .notebook files using **C#** on WPF to replace the existing **6 GB** software suite
- Wrote code to migrate more than **1.3 million** actively used **Flash Objects** into new Javascript widgets on Notebook following OSX Adobe Flash deprecation
- Designed, developed, A/B tested, and shipped the first animated learning activity for SMART Notebook, written in vanilla **Javascript**

Application Developer | XE.com Inc.
Jan - Apr 2016 **Newmarket, ON**

- Overhauled the **Android Wear** application to reduce loading time by **2.4x** and idle battery drain by **90%**
- Shipped a brand new Android app for sister company RIA Digital which featured integration with XE's existing **ASP.net** backend and app design patterns
- Rebuilt the XE sales site in **ReactJS** and **Node.js** to reduce size and load time

RESEARCH

Computer Vision For Medical Images
Jan 2017 - Present **Waterloo, ON**

- Examined over **300,000** breast tissue samples to locate cancer in the KIMIA Lab
- Developed algorithm to extract non-trivial patches from Aperio slides with midline
- Leveraged Hierarchal Clustering using **Jensen-Shannon Divergence** to classify patches tagged with **Local Binary Patterns** into 9 clusters per image in **Python**

PROJECTS

HeyKanye | Hack the North 2016 (Winner)
- Created a **machine learning** rap track generator using **Hidden Markov Models** and **Parse Trees** to generate lyrics and onset detection to sync them to a beat

XpressCart | PennApps XIII (Winner)
- Developed a self-checkout solution with a weight-sensitive shopping cart that communicates with an **Android** app through **NFC**