ETHAN LIANG

2A Systems Design Engineering

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SKILLSET

Languages
Python • Java • C# • C++
Javascript • ES6 • PHP • SQL
Go • Objective-C • Bash

Frontend
ReactJS • Angular 1 • jQuery
Bootstrap • SASS

Backend
Node.js • Apache Server

Database
mySQL • SQL Server • Hive

Tools
numPy • sciPy • PySpark
Hadoop • AWS • Caffe

AWARDS

Hack the North
Grand Winner • Microsoft Azure API Winner

PennApps XIII
Capital One Nessie API Winner

Nordic IoT Hackathon
Top 10 Teams

University of Waterloo
Research Award

EDUCATION

University of Waterloo
Systems Design Engineering
- Cumulative GPA **3.7**

INTERESTS

Reading • Foosball • DIY
Running • Startups • InfoSec

WORK EXPERIENCE

SMART Technologies | Software Developer
September 2016 - January 2017 | Calgary, AB

- Built multiple ETL pipelines to move backlogged connection data from mixpanel into **Hive** on EC2 with **Python**
- 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
- Developed a robust **Python** script to perform inferencing for malformed data
- Led a team of full-time developers on creating a sub-50 MB viewer application for .notebook files using **C#** on Windows Presentation Foundation
- Created a feature in SMART Notebook to migrate more than **1.3 million** actively used **Adobe Flash Objects** into new Javascript widgets
- Designed, developed, A/B tested, and shipped the first animated learning activity for SMART Notebook, written in vanilla **Javascript**

XE.com Inc. | Application Developer
January 2016 - May 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 client RIA Digital featuring integration with their existing **ASP.net** backend
- Created the XE Application for **Amazon Echo** from scratch
- Rebuilt the XE sales site in **ReactJS** and **Node.js** to reduce size and load time

RESEARCH

Hierarchal Clustering of Big Image Data
January 2017 - Present | Waterloo, ON
University of Waterloo 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
September 2016 | Waterloo, ON

- 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
January 2016 | Philadelphia, PA

- Developed a self-checkout solution with a weight-sensitive shopping cart that communicates with an **Android** app through **NFC**