Education

University of Washington | GPA: 3.72 | Computer Science/Applied Mathematics Double Degree Aug. 2015–Jun. 2019 (est.)

* **Python, C/C++, Java, JavaScript, PHP, HTML/CSS/XML/JSON/SQL**
* **Machine Learning (CSE446), Artificial Intelligence (CSE473), GPU Programming (CSE599)**
* Systems Programming (CSE 333), Data Structures/Parallelism (CSE332)
* Weekly Research Recognition Group Meeting with Prof. Ali Farhadi: <https://github.com/joseph-zhong/Papers> | Spring 2017

Lakeside School | GPA: 3.87 | SAT: 2230 | 1st Quintile Aug. 2013–Aug. 2015

* Robotics Club Founder, **fundraised over $2,000 in one month** to jumpstart the club

Online coursework

* **Udacity CS344**:Intro to Parallel Programming for CUDA C with David Luebke and Prof. John Owens | Spring 2017
* **Stanford C231N**: Convolutional Neural Networks for Visual Recognition with Prof. Fei-Fei Li, Andrej Karpathy, and Justin Johnson | Summer 2016
* **MIT 6.006**: Introduction to Algorithms with Prof. Erik Demaine and Prof. Srinivas Devadas | Summer 2015

Work and Leadership

Xevo Inc. Software Intern and Machine Learning Research Seattle, WA | Dec. 2016–Present

* Neural Network research with focus on following eye gaze across and within scenes using Deconvolutions, Spatial Transformations and Saliency Networks
* Small/Fast/Mobile CNN architecture research and fine-tuning: SqueezeNet, MobileNet, ShuffleNet
* Object Detection and Segmentation: SSD, YoloNet, FCN, Deconv, DeepLab, Faster/Mask RCNN
* Seq2Seq Recurrent networks: DeepSpeech Speech to Text Generation
* Deep Reinforcement Learning: Applying Deep Q-Learning to generate synthetic training data
* Founder of Xevo’s AI Reading Group: <https://github.com/surround-io/ai-reading-group>

Surround.IO Software Intern and Machine Learning Research Seattle, WA | Jun. 2016–Dec. 2016

* Video Pipelining, Computer Vision: GStreamer, OpenCV, TensorFlow/TensorBoard, Caffe (Python)
* Training and fine-tuning classical and deep learning methods for object detection: Haars/LBP Cascades, AlexNet, VGG, Inception, ResNet
* Developed and Presented a “distracted driver” detector developed in one week
* **Xevo Inc. acquired Surround.IO in Dec. 2016 after my summer internship**

Harborview Medical/UW Medicine Developer Research Assistant Seattle, WA | Sept. 2016–Jun. 2017

* Facilitating stroke research with MD David Tirschwell, Dr. Richard Anderson, and Glenn Schubert for 25+ stroke research institutions

StudentRND CodeDay Regional Manager Minneapolis, MN | Aug. 2014–Oct. 2016

* Organized triennial hackathon for underrepresented students (<http://codeday.org/>)
* Quintupled registrations and attracted 40% participation from underrepresented groups and women

HackingEDU Android Developer Seattle, WA | Sept. 2015–Jan. 2016

* Developed the Official **Android** App for 2500+ attendees (**Java/XML)**
* Published a featured technical article on helpful APIs to use during a hackathon ([http://blog.josephzhong.me](http://blog.josephzhong.me/))

Projects and Accolades

TreeHacks 2017: **Political News Spectrum Classifier** Stanford, CA | Feb. 2017–Present

* Created a Chrome extension that **classified the political bias of news articles** and suggested related articles of complementary context
* Created a **random forest classifier** to discern political bias using extracted features from IBM Watson document sentiment analysis
* **IBM Watson/Alchemy, MSFT Cognitive API, Flask, Scikit–Learn, and NLTK (Python, JavaScript)**
* **Project development in progress:** experimenting with **TensorFlow and CNN classifiers** [**https://github.com/joseph-zhong/Spectrum**](https://github.com/joseph-zhong/Spectrum)

DubHacks 2016: **Qualtrics Best Data Visualization Award** Seattle, WA | Oct. 2016

* Created a live **student–confusion detector** with **MSFT HoloLens/Unity/Cognitive API/Azure, Flask, Scikit–Learn, and Firebase**
* Created a **decision tree to discern between “confused” and “engaged”** by extracting Cognitive API metadata on Google Images **(Python, JavaScript)**
* Visualized HoloLens output and compiled metadata to provide live expression feedback to the lecturer

DubHacks 2015: **4th Place Finalist** Seattle, WA | Oct. 2015

* Retrofitted a bike to generate **bitcoin** using **AutoCAD, Arduino, Android, MSFT Band, Node.js/MongoDB and MSFT Azure based on calories burned**
* Learned during hackathon: Coinbase API, Android–Arduino Bluetooth, and MSFT Azure VM Management

DubHacks 2014: **2nd Place Finalist and Best Microsoft Hack Award Winner** Seattle, WA | Oct. 2014

* Built SecondRoute, a background GPS app that detours driver through traffic for **Android and Windows Phone (Java, C#, XML, XAML)**
* **Learned Android development the day prior**

WashUHack: **1st Place Winner** St. Louis, MO | Sept. 2015

* Built **iOS** and web app to analyze sentiment insight from open–response SMS polls with **IBM Alchemy, Twilio, and D3.js (Python, Javascript)**

PennApps XIII: Built web/mobile app using OCR to scan receipts and provide recipes in order of food expiration date Philadelphia, PA | Jan. 2016

UW Computer Security Competition: **2nd Place Finalist** Seattle, WA | Oct. 2015

UW ICPC Qualifier: **6th Place Finalist** Seattle, WA | Oct. 2016

PennApps XIV: **Google Honorable Mention** Philadelphia, PA | Sept. 2016

AngelHack Seattle: **Twitter API Award** Seattle, WA | June 2015