(425) 628-7248 | Joseph Zhong | josephz@cs.washington.edu

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-Summer 2017

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

- Robotics Club Founder, fundraised over $2,500 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. (acquired Surround.IO) 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
- FaceNet: Applying CNN/Triplet-Loss Embeddings to driver fingerprinting and driving characteristic classification
- Deep Reinforcement Learning: Applying Deep Q-Learning to generate synthetic training data
- Founder of Xevo's AI Reading Group: https://surround-io.github.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, during my part-time winter 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
- Established the hackathon scene in Minnesota, helped found local Minneapolis hackathon HackTheHeat: http://hacktheheat.net

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

- Developed the Official Android App for 2500+ attendees to the largest EDU-focused national hackathon: http://hackingedu.co
- Published a featured technical blog and tech talk on helpful APIs: 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

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