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Charlie Yan

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EXPERIENCE

Busman.xyz **Jan 2016 Mar 2016**

- Designed and delivered a data ingestion pipeline using AWS Elastic Beanstalk / SQS / S3 / DynamoDB / Python Flask to crawl and process public transit information for 300+ agencies worldwide.
- Implemented and iterated on a Ruby on Rails REST web service with AngularJS / Google Maps front-end for exploring public transit information.
- Built an Android 5.0 mobile app and published it to the Play Store.

Software Development Engineer, Microsoft Corporation WAC **Jan 2015 Dec 2015**

- Delivered bug fixes, performance improvements, and typing features to Word, Powerpoint, and OneNote Online.
- Designed, implemented, and shipped a new activity feed feature to internal dog-food within a month, under initial time estimates.

Software Development Engineer, Amazon.com **May 2013 Dec 2014**

- Designed, implemented, and shipped a new Java Spring service for ingesting data about billions in cash transactions per day to accounting platform using DynamoDB, SQS/SNS, and S3 AWS services. Migrated all global traffic to use new service on schedule, using automation and scripting to detect and fix regressions before they impacted production. Shipped a Ruby on Rails interface around the service that simplified cash related developer operations and reduced team monthly operational tickets by 15%.
- Worked with technical and business teams to onboard new international businesses and new payment use cases onto our platform. Increased global automated accounting coverage from 85% to 92%.
- Refactored all services to be fully configuration-driven, vastly reducing developer effort needed to onboard new businesses and accelerating efforts to reach 100% automated accounting.

Research Assistant, University of Michigan CS Dept. **Jan 2012 Jan 2014**

- Built an object detection pipeline using Matlab and Python for detecting automobiles in pictures and point clouds from a variety of environments.
- Designed and executed experiments to improve the detection performance using HOG and SIFT features from 2D images and clustering and scene understanding techniques on 3D velo-dyne data. Used classification techniques such as linear and RBF SVMs, Restricted Boltzmann Machines, and Deep Autoencoders. Implemented spatial pyramids and sliding window algorithms for detection. Used CUDA convnets to speed up computation.
- Presented research findings in an undergraduate research symposium.

Instructional Aide, University of Michigan ECE Dept. **Jan 2012 May 2013**

- Taught six laboratory sessions of the Digital Signal Processing Lab course to engineering upperclassmen.
- Mentored student teams with their capstone design projects, providing technical guidance on FPGAs, TI and Arduino embedded systems programming, and sensors.

Founding CTO, TogoHealth **Nov 2009 Aug 2011**

- Designed, implemented, and deployed TogoHealth EMR, a Ruby on Rails based electronic medical record and scheduling system for tracking patient appointments.
- Tech lead for three other developers, delivering technical specifications for five software products.

EDUCATION

University of Michigan College of Engineering — Dual Degree in CS and EE

Graduated May-2013, GPA 3.71, *Magna Cum Laude*

- Algorithms, Operating Systems, Databases
- Machine Learning, Artificial Intelligence, Advanced Topics - Image Processing
- Digital Signal Processing, Control Systems
- Probability, Real Analysis, Linear Programming

PROGRAMMING LANGUAGES

- C++, Python, Ruby, Java, Matlab, Javascript