**Yang Zhang**

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**EDUCATION**

**University of Washington, Seattle, WA**

B.S., Electrical Engineering09/2010 – 12/2014

GPA: 3.42/4.0

**Washington State University, Pullman, WA**

M.S., Computer Science(in progress)08/2016 – 05/2018

GPA: 3.6/4.0

**TECHNICAL SKILLS**

**Language:** Java, Python, C, C++

**Programming Concepts:** Objected-Oriented Programming, Complexity Analysis and MVC

**Web Technologies:** JavaScript, HTML, XML, CSS, PHP, AJAX

**Operating Systems:** Linux, Mac OS X and Windows

**Database:** CouchBase, SQL Server, SQLite and MySQL

**Machine Learning:** Supervised Learning (such as perceptron, SVM),

Unsupervised Learning (such as K-Means, EM),

Reinforcement Learning(such as Q-learning)

**PROJECT EXPERIENCE**

**Message Wall (Python REST)**

* A REST API project with following features:
* Django with Django REST framework as backend, Ajax based website as frontend
* Registration and Login: Anonymous users can create a new user and this new user receives a welcome e-mail. New users can then log in.
* Wall (authed):  After logging in, a user can post messages on the site-wide wall, similar to a facebook wall
* Wall (guest): Guests as well as authed users can see all of the messages on the wall.
* Write tests to confirm the functionality

**Shaped Wall**

* Worked with both computer science team and architecture team to build a smart wall that change its shape according to users’ emotion state and other bio data.
* Implemented eye blink events with Tobii eye SDK (C#)
* Implemented face expression detection with Affectiva SDK (JavaScript)

**Checkstyle extension plug in (Java)**

* Based on the starndard Checkstyle (eclipse plug in), extends the tool with more anti-pattern detection including (blob class, feature envy and duplicate code)

**Chinese Segmentation Tool (Java)**

* Implemented a Chinese Segmentation tool by applying Hidden Markov Model.

**Flappy Bird Agent by Q-Learning (Python)**

* Implemented a Q-learning agent that can constantly achieve score more than 500 points in the classic game Flappy Bird.

**Gridworld Solver Agent by Q-Learning (Python)**

* Implemented a reinforcement learning agent that can learn the optimal policy from the giving grid world environment by using Q-Learning algorithm.
* The agent adapts two different explore/exploit politcies (e-greedy and Boltzman exploration)

**MemoMe (Notebook application for Android)**

* Designed a notebook application, which consists of SQLite Database, and ViewPagerIndicator (an open-source library) to help users record and manage their daily memos.
* Implemented grid-pager styled preview UI that provides an elegant and effective interface for memo browse.
* Featured extra save mechanism embedded in activity life cycle, preventing accidental user data lose.

**Minesweeper game in Java**

* Implemented replica of the classic Microsoft game Minesweeper, include all original functions (left click to open one cell, right click to flag one cell, double click to explore around cells).

**Snake game in Java**

* Implemented replica of the classic Nokia snake game, with original playing style

**Path Navigator in Java**

* Designed a graph application capable of reading location and map from input file, and showing user the shortest path and path with minimum cost between two locations.
* Built a searchable graph object and implemented BFS, DFS and Dijkstra’s algorithms.

**Video Store Application in SQL Server**

* Designed a client-side application, which consists of SQL Server, transaction management, SQL injection prevention to enable the users to rent/return films, change viewing plan and check the availability of films.
* Designed ER diagram and relational model for the execution of database and queries.

**To-Do List (Web application in PHP and JavaScript)**

* Designed an online to-do list application, which consists PHP, JavaScript, Cookie management for login session, injection prevention and regular expression, to help users manipulate their memo.

**WORK EXPERIENCE**

**Expeditors, Sys Admin Intern, Seattle, WA** Jun. 2017 – Aug. 2017

* Implemented the Automated Continuous Integration (ACI) web tool for Gitlab CI (Python with Django)
* ACI tool helps developer and QA tester to apply CI in unit testing and system deployment
* Developed in Python with Django (back-end) and JavaScript (front-end)
* Authentication uses OAuth 2 workflow
* Worked with SA-QA team and learned the standard QA process including the method of developing solid test plans and recording results from test cases

**Qikspace, SDE Intern, Seattle, WA** Jun. 2014 – Sep. 2014

* Implemented push notification service for both server side (Python) and Android side.
* Implemented server-side tool-kit allowing the users to access and manage their Google Drive contents where OAuth 2.0 was employed for authentication process.
* Implemented the basic cache server for the server side. (Redis)
* Implemented database synchronization service for Android side.
* Implemented the basic download and upload service for Android side. (Retrofit)