**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++, BASH

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

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

**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**

**Gridworld Solver Agent by Q-Learning**

* 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)
* In e-greedy strategy, the agent explores the world randomly by the probability of 1-e-value
* In Boltzman strategy, the agent follows a fixed scheduling rate by initializing a large temperature and then decay.

**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. And most recent modified time will be recorded and showed in both preview and editing mode.

**Minesweeper game in Java**

* Recreated the Microsoft Minesweeper game.
* Implemented all original functions: 1. left click to open one cell 2. right click to flag one cell 3. double click (press both right and left) to explore around cells.

**Snake game in Java**

* Recreated the classic Nokia snake game.
* Inherited the original playing style
* Represent the 2D graphics by using Java AWT framework

**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 by adding or deleting items.

**WORK EXPERIENCE**

**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 mange 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)