# TAIRAN SONG

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## EDUCATION

**University of Virginia, Charlottesville, VA**                                    Aug. 2019 - Current
Master of Computer Science 2020
Relevant Coursework
Design and Analysis of Algorithms, Machine Learning, Mobile and IoT Security

**University of California Irvine , Irvine, CA**                                    July 2015 - June 2019
Bachelor in Computer Science, June 2019
Relevant Coursework
Proj Data&Web Apps, Des&Analys of Algor, Data Src Impl&Anls,Discret Math for CS, Princp in Sys Desgn, Formal Lang & Autm,
Informtion Retrieval ,Intro to Data Mgmt, ComputationalGgeo, Computer Networks, Embedded Software, Digital Logic Design.

## SKILLS

**PROGRAMMING LANGUAGES:** C++ (proficient), MySQL , C , JAVA, Python, Linux ,HTML, CSS, Javascript

## PROJECTS

Fablix                                                                              Jan. 2019 - Mar. 2019
-A Full Stack website deployed on AWS and Google Cloud in which users are able to browse/search for movie information and buy movies.
-Used HTML/CSS/Javascript on front end. Requests from users are contained in URL and sent using HTTPS to backend.
-Implemented JAVA Servlet to receive requests and talk to the database using JDBC  implemented with MYSQL to fetch and send data.
-Used SESSIONS to keep users logged in and persists across more than one connections.
-Scaled Fabflix with a cluster of MySQL/Tomcat and a frontend load balancer.

Spell Checker                                                                       Mar. 2018 - Mar. 2018
-Given a correctly-spelled word set and an input text, reports all of the misspellings and suggests similar words appearing in the word set.
-Implemented AVL Tree with C++ to store word set in which words in the left subtree are always smaller than the keys in right subtree.
-Implemented Hash Table with C++ to store word set with separate chaining, implemented as a dynamically-allocated array of linked lists.

Othello Game and AI                                                                 Mar. 2017 - Mar. 2017
-Implemented the game in Python with an algorithm that is able to take users' inputs and make changes to the board.
-Used GUI to visualize the board and allow interaction between user and the program.
-Wrote an AI (Min-Max) with C++ that is capable of choosing moves in the Othello game. Performs depth-first search on the game tree.
-Used Heuristic Search to reduce memory usage and only predict four moves. Prioritize positions near the border to improve win rate.
-Top 20 in Class Tournament with 85% win rate.

Rock and Roll stops the Traffic                                                     Mar. 2016 - Mar. 2016
-Given a map of streets and freeways, use C++ to finding the shortest distance or fastest route to get from one location on the map to another.
-Built the graph with Adjacency List technique.
-Used Dijkstra's Algorithm to find the shortest path from all start vertex to all the other vertices in a graph and store the result in memory.

## VOLUNTEERING

**CodeOn**, *Tutor*                                                                 Apr. 2018 - July 2018
Newport Coast, California
-Offer computer science education to underfunded K-8 schools and underprivileged students.
-Engage students in an algorithm-rich environment.
-Design curriculum for every class.