

# Shen Huang

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## EDUCATION

**California State University, Northridge**, Northridge, California, USA

September 2017 - June 2019 (Expected)

MS in Computer Science

**Queens University**, Kingston, Ontario, Canada

June 2015

BS in Electrical Engineering

## Writer at Medium

[https://medium.com/@shenhuang\\_21425](https://medium.com/@shenhuang_21425)

Writer at Medium for **freeCodeCamp.org**, **Frontend Weekly**, **Towards Data Science**, **The Startup** and **Hacker Noon**. Articles got published on **PenTest Magazine** upon their requests. Good writing skills and passionate in helping other developers.

## SKILLS

**Programming Languages:** Object-oriented design using **Java**, front end development with **HTML**, **JavaScript**, backend development with **Go** and **Node.js**. Web testing with **Selenium**. Statistical analysis using **Python/MATLAB/OCTAVE/Excel**, mobile game development with **Unity-C#**, microprocessor programming with **Arduino**, **C** and **Assembly**.

**Computer Science:** Data structures, algorithms, computer system architecture, object-oriented programming, operating system, signal processing, data analysis, artificial intelligence (both machine learning and game AI).

## WORK EXPERIENCE

### Graduate Assistant

Starting September 2018

- Assisted the professor with research tasks including code production.

### Software Engineer Internship, CETC Motor

July 2013 - September 2015

- Worked on a compiler to support floating point calculation by modifying the lexical and syntax analyzer.
- Added English and Chinese support for help documents.

### Electrical Engineer Internship, State Grid Corporation of China

July 2012 - September 2012

- Designed and Implemented a Java application to help managing error reports.
- Collaborated with six other engineers to validate the integrity of the communication system between the distribution station and the headquarters.

## PROJECTS

### Improved Classification Algorithms

- Invented and applied a mixture model theorem to improve conventional classification models. The accuracy was improved from 72% to 100% for the target data set. Invented and applied a statistics theorem and applied it into inventing a new algorithm.
- Implemented the data collection mini-game interface with HTML5 Canvas, backend in both Node.js and Golang. Data preprocessing and analysis was done in OCTAVE, EXCEL, Python, WEKA and Node.js.
- Created a social media page to collect data, tested the social media page with Selenium.

### Game Design

- Built multiple games in Unity for mobile platform, utilizing touch screen inputs, accelerometers, gyroscope, cameras and VR developments.
- Built a grid-based underground mining lava run game with procedurally generated level and lava automaton, mobile friendly with many UI design improvements built on easily adjustable custom UI objects.
- Built multiple multiplayer games with HTML5 and Unity front end with C# .NET Framework, Node.js backend. Familiar with Unity LBS, DynamoDB and Buckets in both GCP and AWS. Some games are ongoing.
- Improved complexity of real time algorithms to  $O(1)$ , including information inside fog of war only available on the server side.
- Implemented AI algorithms such as min-max tree and state machines. Exposed to algorithms such as A\* Search, Monte-Carlo search and Deep Q Learning.
- Collaborated with people in other disciplines such as musicians, artists and writers.

### Queens ECE Annual Robot Competition, 1<sup>st</sup> Place

- Designed a slam-dunk robot, code based on Arduino. Robot moves and grabs with servo motors utilizing Pulse Width Modulation. Robot senses the environment through touch sensor and distance sensors, and therefore was designed to have a close loop control system to adjust the speed for optimal performance.