

# Shengyi (Costa) Huang

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<https://CostaHuang.me/>

## EDUCATION

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### *Furman University, Greenville, SC*

Fall 2013—December 2017

- Bachelor of Science
- Computer Science and Mathematics (Double Major)
- Graduation date: May 2018
- Cumulative GPA: 3.329

## EXPERIENCE

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### *Computing in Community Developer*

Fall 2017 - Current

#### **Furman University Computer Science Department, Greenville, SC**

- Developing a commencement-related app that allows students to upload their name pronunciation and profile picture.
- Utilized Golang and Algolia for back-end to build interactive search
- Used Nuxt.js and Slick.js to create mobile-friendly admin panel  
(See demo here <https://youtu.be/1ZRpvO15kb0>)

### *Teaching Assistant for Web Programming*

Fall 2017

#### **Furman University Computer Science Department, Greenville, SC**

- Experimented with the newest front-end and back-end technologies with the professor
- Assisted students with (1) JavaScript related tools such as VueJs, Webpack, and Vuetify, and (2) Laravel development
- Explored AWS S3 for uploaded files storage

### *Furman Research Fellow*

Summer 2017

#### **Furman University Computer Science Department, Greenville, SC**

- Conducted research on travel plan recommendation based on historical traffic flow data
- Published a Python server package that crawls traffic flow data (<https://github.com/streettraffic/streettraffic>)
- Set up proper unit-tests and documentation by using Sphinx (<https://streettraffic.org/docs/docindex.html>)

### *Vice President of Technology*

Fall 2016 - Spring 2017

#### **Furman University Investment Club, Greenville, SC**

- Founded <http://portfolio.fuinvestment.com/> that shows equity curve, portfolio, and transactions history
- Used Google Script to automatically record portfolio value every day for quarterly analysis

## PROJECTS

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### ***Reproduction of Deepmind's StarCraft II Research***

**Fall 2017**

<https://costahuang.me/SC2AI/>

- Utilized Openai Gym to interact with Pysc2, the SC II Learning Environment
- Successfully incorporated Tensorforce, a reinforcement learning framework, to train SC II game agents
- Constructed maintainable and *understandable* machine learning code

### ***Linear Programming for Optimal Scheduling***

**Fall 2017**

[https://github.com/vwxyzjn/LP\\_optimization\\_python](https://github.com/vwxyzjn/LP_optimization_python)

- Modeled the scheduling problem as a Linear Programming Problem and used Gurobipy to produce an optimal solution through the simplex method

### ***Sentiment Analysis of Movie Review***

**Fall 2016**

<https://costahuang.me/research/LSTM-RNN-For-Sentiment-Analysis>

- Used neural network to classify movie reviews based on sentiment
- Improved prediction accuracy on Keras's official demo code from 82.35% to 88.75%

## OPEN-SOURCE CONTRIBUTION

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### **TensorForce: A TensorFlow library for applied reinforcement learning**

**Fall 2017**

<https://github.com/reinforceio/tensorforce>

- Added a parameter in the environment API to allow user to visualize the training within the Gym's environment
  - <https://github.com/reinforceio/tensorforce/pull/242>
  - Merged
- Fixed a bug that involves incorrect handling of multiple actions returned by the agent
  - <https://github.com/reinforceio/tensorforce/pull/244>
  - Merged

### **Python Extension for Visual Studio Code**

**Summer 2017**

<https://github.com/Microsoft/vscode-python>

- Modified the underlying autocompletion module to enable variable reference on PEP 526 notation
  - <https://github.com/DonJayamanne/pythonVSCode/issues/1101>
  - Merged

### **Vuetify Material Component Framework for Vue.js 2**

**Summer 2017**

<https://github.com/vuetifyjs/vuetify>

- Made starter templates for users to do rapid prototyping.
  - <https://github.com/vuetifyjs/docs/pull/181>
  - It's now live at <https://vuetifyjs.com/pre-made-themes>
  - Merged