

# Yihui Cai

Software Development Engineer

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## Skills

### Programming

Python, C++, Java, JavaScript

### Back End Platforms

Flask, Django, Jinja2, Apache

### Database Technologies

PostgreSQL, SQLAlchemy

### Other Technologies

Bash Shell, Git, RESTful API, OAuth2

### Front End Frameworks

JQuery, Knockout.js, React.js

### OS & Cloud

Linux, AWS(EC2), Windows,  
Google App Engine

## Educations

### University at Buffalo - SUNY

M.S. Electrical Engineering

2015.09 - 2017.02

### Tongji University

B.E. Communication Engineering

2011.09 - 2015.06

**Third Prize Award:** Tongji Student's  
Innovation Training Program

## Courses:

Object Oriented Programming(C++),  
Data Structure(Java), Information  
Theory, Computer Network,  
Data Mining, Network System Design,  
Algorithm Design,  
Video Communications,  
MIMO Communications, etc.

## Certificates:

Coursera Java Object Oriented  
Programming

Udacity Full Stack Web Development  
Nanodegree

## Self-paced Projects

### Item Catalog with OAuth2 on Apache Linux Server

2017.05

- Developed an Item Catalog storage system using Flask in Python under independent learning on Udacity.
- Implemented authentication/authorization through OAuth2 with Google Plus to grant access to modify the catalog. Utilized Python Objects and Python Decorations to improve the scalability in tracking the state of users for granting certain permissions.
- Designed a relational Database with PostgreSQL that includes tables of Users, Categories and Items. Used SQLAlchemy to manipulate the database. Deployed the application on AWS server using Apache2.

### Multi User Blog with User Registrations

2017.08

- Built a blogging website that hosted on Google App Engine, with add, like, edit and delete blogs or comments and login functionality using Python under independent learning on Udacity. Utilized Jinja2 for template rendering.
- Resolved the server side user information security problem by encrypting passwords and cookies using SHA256 hash function.

### Local Gas Stations Map Powered by RESTful APIs

2017.06

- Designed MVC-structured Single Page Web Application using Knockout.JS and jQuery.
- Integrated with Google Maps API web services and Yelp Fusion API to retrieve gas station location information via RESTful request.
- Solved the CORS authentication problem of AJAX requests to Yelp Fusion server.

### Tournament Results Database Management tool

2017.06

- Built a PostgreSQL relational database scheme to store the results of a game tournament. Also provided a number of queries to efficiently report the results.
- Designed and programmed a Python command line tool for granted users to connect, query or make changes to the database.

## Experience:

### The Walt Disney Company (Shanghai), Ltd

Shanghai, China

#### Data Analyst Intern

2015.01 - 2015.06

- Assisted in developing an audience-based model featuring different ages, broadcasting timeslots and regions.
- Analyzed the data of Disney Channel in Hong Kong and Taiwan for media research purposes and further visualization.
- Participated in developing better strategies for TV markets in Greater China.

### Wireless Networking and Systems Lab in UB

Buffalo, NY

#### Project Assistant

2016.06 - 2016.08

- Performed experiments of the energy consumption of mobile phones using Monsoon power Monitor.
- Generated tests and configured different mobile devices (Android) to receive data under 802.11g/n using iPerf.
- Generated parameters for an energy model by Python with linear regression and analyzed errors based on more than 1,300 sets of experiment data.