# Tiancheng (Alan) Luo

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## EDUCATION

**New York University, New York, NY (NYU)** Sept 2019 – (expected) May 2021

- M.S. Computer Science

## WORKING EXPERIENCE

***Software Engineer*** Advanced Institute of Information Technology, Peking University Jan – Jul 2019

- Developed iOS apps (**Swift**) and backend servers (**Flask**, **Laravel**, and **MySQL**) to implement business solutions (such as tracking employees' workflow and collecting marketing data for salespeople). The workflow app increased a factory's productivity by 7%, and the marketing data app decreased the salesperson's working hours for 2 hours per market area.
- Wrote **Python** scripts to stripe information from the production log of factory machines for further analysis. The scripts found symptoms before failure happened and calculated average failure time. It helped to decrease the downtime by 33%.

***Software Engineer*** Hongmantang BBS Studio, SCAU May 2016 – May 2018

- Developed University Tour Registration System using **Ruby on Rails** and **MySQL**, integrated with the student system through **OAuth**, hosted on **AWS EC2**. More than half of guests started to register online instead of mailing registration form.
- Refactored Course Evaluation System (similar to RateMyProfessors) using **PHP** and writing extra code to prevent **XSS** and **SQL Injection**. Improved UI and the page views had been tripled. Received positive feedback from the student affairs office.

## PROJECTS

**Price Tag** Apr – Jul 2019

- An iOS app that assists salespeople in collecting price data and sales status and analyzing market demand. The app cuts data collection time in half so that salespeople have more time to market products.
- Implemented an **iOS** app (**Swift**) to scan price tags and detect price number through iOS build-in VisionRectangleDetection.
- Implemented a backend server with **Flask** to accept images and query a pre-trained **CRNN** model for text recognition.
- Implemented a backend server with **Laravel** and **MySQL** to record all results for further analysis.

**Hawk Events** Oct 2017 – Dec 2017

- An iOS app with the features of showing events near users, sharing events between users as well as publishing new events. The app increases student interest in participating in school activities.
- Developed a backend server to crawl event data from multiple sites using **Scrapy** for fast development and parallel crawl.
- Designed a backend server based on **Ruby on Rails** to collect event data and provide **RESTful APIs** to the iOS app, hosted on **Heroku**. Stored event data on **AWS RDS** and event images on **AWS S3**, used **AWS Lambda** for resizing images.
- Developed an **iOS** app (using **Swift**) based on **Google Maps** to show events. Utilized **Alamofire** to query the RESTful APIs, **Google Places** to get geographic coordinates from addresses, and **Material Design** to improve the interfaces.

**Student Self Service System** Jan 2017 – May 2017

- A web app that allows students to submit applications that advisors can review and approve, improved the efficiency of the department workflow, and decreased the students' waiting time.
- Implemented the frontend with **Bootstrap** to improve accessibility for mobile and **ajax** to improve speed and reduce traffic.
- Implemented the backend server with **ThinkPHP** and **MySQL**, and hosted on Sina App Engine, a Chinese PaaS platform. Also utilized **Memcached** to reduce page render time and **Redis** to reduce database queries.
- Integrated with **Twilio** and **SendGrid** to send out notifications through email and SMS.

## SKILLS

- Python, Java, PHP, Ruby, Swift, Objective-C, C / C++, HTML & CSS, JavaScript, Markdown, LaTeX
- Laravel, Ruby on Rails, Bootstrap, Flask, React, jQuery, Amazon Web Services, DigitalOcean, Heroku, GitHub, Docker

## PATENT AND PAPER

Chen, X., Gong, X., **Luo, T.**, and Ma, Z. 2019. Method, Equipment, Device and Storage Medium for Detecting Surface Defects of Injection Molded Parts. China Patent Application 201910465454.9 filed May 2019. Pending.

Gong, X., Huang, L., **Luo, T.**, & Ma, Z. (2019). Semantic Weighted Multi-View Clustering for Web Content. IEEE Access, 7, 128097–128113. doi: 10.1109/access.2019.2939334