

# Yizhou Xu

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## SUMMARY

- Seeking for Software Engineer position, focus on backend/full stack
- 4+ years of hands-on coding experience, solid knowledge in data structures, algorithms, Objected Oriented Programming and System Design
- Proficient in Java and Python; Experience with C++, JavaScript/JQuery, HTML5, CSS3, R, Matlab
- Spring MVC, Spring Boot, Spring Data, Spring Cloud, Maven, Tomcat, RabbitMQ, MongoDB, Docker, IntelliJ
- TensorFlow, Keras, OpenCV, Scikit-learn, AWS EC2, BeautifulSoup, SQLAlchemy, Jupyter Notebook
- Git/Github/Gitlab, Slack, Jira, Sublime, Vim, Linux, Xenserver

## EDUCATION

<b>Columbia University</b>	M.S. in Operations Research	GPA 3.80/4.00	Jan. 2015 - May 2016
<b>Columbia University</b>	M.S. in Electrical Engineering	GPA 4.00/4.00	Sep. 2013 - Dec.2014
<b>Fudan University</b>	B.S. in Electrical Engineering and Automation	GPA: 3.63/4.00	Sep. 2009 - Jun. 2013

## PROFESSIONAL EXPERIENCE

**Software Engineer at XCG Design, San Francisco, CA** May.2017 - Present

### *Vehicle Location Tracking Service*

- Designed and developed a real-time car location simulation, monitoring and tracking system using Java, Spring MVC/Boot/Data/Cloud, JPA, Tomcat, RabbitMQ, MongoDB, WebSocket, HTML, JavaScript, Bootstrap. Used Maven to manage dependencies.
- Designed and implemented backend services based on MicroServices architecture. Incorporated RabbitMQ as message broker to decouple backend services. Used in-memory database for development.
- Implemented server-side REST APIs such as location updater. Collaboratively developed client-side dashboard to integrate with backend using HTML5, CSS3, Javascript, Bootstrap, RESTAPI and WebSocket
- Incorporated Netflix Eureka as service registration and discovery, automated system replica, increased the scalability, performance and robustness. Incorporated Netflix Hystrix as circuit breaker to monitor the system and improve the stability of Location Service comprehensively. Used Spring Boot Actuator to monitor application health

**Research Analyst Intern at CICC US Securities, New York, NY** Mar.2016 - Apr.2017

- Conducted thematic research reports and weekly reports focusing on the U.S. technology sector, with topics such as cloud computing, artificial intelligence, autonomous vehicle, virtual reality, etc.
- Built an IPO stock price predicting system using Python, BeautifulSoup, SQLAlchemy, implementing Machine Learning algorithm from simple regression to recurrent neural network(RNN)

## SELECTED PROJECTS

*Highway Lane Lines and Vehicle Detector* Summer 2017

- Designed a highway lane lines detector that could identify the curvature of the lane and vehicle position with respect to center in real time by using OpenCV to handle camera distortion correction, image rectification, color transforms, and gradient thresholding
- Created a vehicles detection and tracking pipeline by performing Histogram of Oriented Gradients feature extraction on a labeled training set of images including both car and non-car images. Trained a SVM classifier with these features
- Evaluated the model on video data from an automotive front-facing camera taken during highway driving. Optimized and overcame environmental challenges such as shadows and pavement changes by combining different color spaces features and tuning parameters both manually and using GridSearchCV

*Dog Breed Classifier* Spring 2017

- Built a dog breed classifier that could distinguish images of human beings from images of dog and identify canine breed given an image of a dog
- Designed a six-layer convolutional neural network from scratch with TensorFlow-backend Keras. Trained model using AWS EC2 p2.xlarge GPU computing instance
- Detected certain dog breed from 133 dog categories with nearly 50% accuracy on test data after less than one minute of training, compared to 70% accuracy if implementing transfer learning that utilized bottleneck features from pre-trained VGG-19 model

*Simple Client-Server program and TCP-like transport-layer protocol* Fall 2014

- Designed a simple Client-Server network where users could log in using client terminal and server was able to respond to some commands from logged-in user as well as broadcast messages.
- Built a TCP-like transport-layer protocol that provided reliable, in order delivery of a stream of bytes. It allowed logged-in users to transfer files in different format with other logged-in users, and could recover from in-network package loss, package corruption, package duplication, package reordering and cope with dynamic network delays

For more projects or details, check my personal website: [yizhouxu.com](http://yizhouxu.com)