

BOYAN CAI

bycai.ucdavis@gmail.com | (530)220-2652 | [ysyncby.github.io](https://github.com/ysyncby) | Davis, CA 95616

Interested in Software Engineering

EDUCATION

University of California, Davis

Davis, CA

Master of Science in Electrical and Computer Engineering | GPA: 3.7/4.0

Expected Graduation: June 2020

Xi'an Jiaotong University

Xi'an, China

Master of Engineering in Control Theory and Control Engineering | GPA: 83.48/100

Sept. 2013 - July 2016

Bachelor of Engineering in Electrical Engineering and Automation | GPA: 3.45/4.00

Sept. 2009 - July 2013

SKILL

Language: Python, C++, C, MATLAB, Java

Tools: AWS, Azure, Docker, Mesos, Git, Kafka, Cassandra, Spark, Redis, Terraform

Courses: Algorithm Design & Anlys, Machine Learning, Reinforcement learning, Autonomous Robotics

SELECTED PROJECT AND EXPERIENCE

Real-time Stock Data Analysis Platform

Davis, CA

Personal Project

May. 2019 - Now

- Designed a stock price analysis pipeline in Python using Apache Kafka, Apache Cassandra, Spark and Redis.
- Collected real-time financial data at customized intervals based on Kafka, Alphavantage API and Twitter API.
- Implemented storage layer using Cassandra and Redis with optimized schema to improve query performance.
- Encapsulated functionalities as microservices and orchestrated containers using Docker and Mesos.
- Implemented one-click AWS EC2 deployment using Ansible and Terraform.

University of California, Davis

Davis, CA

Research Assistant

Jan. 2019 - Sept. 2019

- Established a spectrum analysis method in Flame S-NIR to detect injury with 80% precision and recall. (Linux)
- Pre-processing methods: Downscaling, Standard Normal Variate, Covariance Matrix. (Python, Matlab)
- Post-processing methods: Ridge, Lasso, SVM, Random Forest, LDA, QDA, Neural Network. (Python)

Clobotics Co., Ltd.

Shanghai, China

Machine Learning Intern

Dec. 2017 - July 2018

- All the projects were completed based on Linux.
- Cooperated with data labeling team, managed, analyzed and enhanced training data and testing data quality to improve the performance of object detection and classification models. (Python)
- Increased the number of drink categories for object classification from 80 to 105 that have 0.85 of precision/recall.
- Deployed, LabelMe, an offline image labeling tool and trained staff of 30 people.
- Trained object classification models by fine-tuning pre-trained Faster-RCNN model in Tensorflow and GoogleNet model in caffe with GPU. (Azure)

EHang Co., Ltd.

Guangzhou, China

Software Engineer

July 2016 - Apr. 2017

- Led a team of 6 to break world record with 1000 drones Swarm Light Show. Modified the control logic so a drone can be controlled based on GPS time.
- Modified PX4 flight control system including return mode, guided mode, and battery management. (C++)
- Upgraded communication protocol of flight control system from MAVlink 1.0 to 2.0.
- Designed and developed control logic between the flight control SDK and user commands. Accomplished auto return based on battery life and controlling a drone via tilting cell phones and joysticks. (Java)