Weimeng **Pu**

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Education

San José State University *San José, CA*

B.S. in Computer Science, Honors(expected) *Aug 2014 - (Exp)May 2018*

Major GPA: 3.905/4.0

Experience

Deep Learning Engineer Intern

TUPU Technology *May 2017 - Aug 2017*

- Worked in mobile AR team.
- Optimized the robustness of our face detection algorithms by training on two face detection datasets (FDDB and WIDER FACE).
- Supported the commercialization of existing algorithms.
- Surveyed on modern deep learning models for object detection.

Lab Instructor and In-Class Teaching Assistant

CS 46A (Introduction to Programming) *Jan 2017 - PRESENT*

- First-year computer science course learning basic skills and concepts of computer programming.

Teaching Assistant

CS 49J (Programming in Java) *Jan 2017 - PRESENT*

- Second-year computer science course learning a number of important Java topics and libraries.

Data Science Intern

ITS Enterprise Solutions, SJSU *Feb 2017 - Mar 2017*

- Preprocessed address data to help with the prediction of enrollment decisions of admitted students.
- Built the pipeline of predictive analytics based on a web-based student performance monitoring system that provides automated student services and communication between faculty, advisors and tutors.

Computer Science and Mathematics Tutor

College of Science, SJSU *Aug 2016 - Dec 2016*

Projects

Robotic Arm: Pick and Place (ROS, Gazebo)

Kinematics *PRESENT*

- Learn how to control a robotic arm with six degrees of freedom to perform pick and place actions using inverse kinematics.

PID and MPC Control (C++)

Control *Jun 2017*

- Implemented a proportional–integral–derivative (PID) controller and model predictive control (MPC) to control a vehicle in simulator.

Kidnapped Vehicle Localization (C++)

Localization *May 2017*

- Implemented a two-dimensional particle filter to localize vehicle position and yaw to certain values in a simulator given a map and initial localization information (analogous to what a GPS would provide).

Extended and Unscented Kalman Filter (C++)

Sensor Fusion *Apr 2017*

- Implemented an extended kalman filter and an unscented kalman filter to estimate the state of a moving object of interest with noisy lidar and radar measurements.

Vehicle Detection and Tracking (OpenCV, Python)

Computer vision *Feb 2017*

- Wrote a pipeline to detect and track vehicles in a video from a front-facing camera on a car.
- Performed histogram of oriented gradients feature extraction on a labeled training set of images.
- Trained a Linear SVM classifier to search for vehicles using sliding windows and estimated bounding boxes for vehicles detected.
- Created heat maps of recurring detections frame by frame to reject outliers and followed detected vehicles.

Lane Lines Finding (OpenCV, Python)

Computer vision *Jan 2017*

- Wrote a pipeline to identify the lane boundaries in a video from a front-facing camera on a car.
- Applied camera distortion correction, color transforms, gradients and perspective transform to detect lane pixels.
- Output visual display of the lane boundaries and numerical estimation of lane curvature and vehicle position.

Car Behavioral Cloning (Keras, OpenCV, Python)

Computer vision *Dec 2016*

- Used a simulator to collect data of different driving behavior.
- Implemented convolution neural network in Keras to predict steering angles from image data.
- Tested the model to successfully drive around track autonomously in the simulator without leaving the road.

Traffic Sign Recognition (TensorFlow, OpenCV, Python)

Computer vision *Nov 2016*

- Trained a simple convolutional neural networks to classify traffic signs from the German Traffic Sign Recognition Benchmark (GTSRB) dataset with 91% accuracy.

Examining Worldwide Income Inequality (R, SQL)

Data Science *May 2016*

- Applied Multiple Linear Regression to examine various development indicators from the World Bank and discovered how they influence income inequality as measured by the GINI index.
- Was the only project from the course that had been awarded in the competition.

Honors & Awards

2016 **3rd Place**, American Statistical Association Undergraduate Statistics Class Project Competition

2016 **The Google Games Bay Area Coding Winner**, Google

2014 **Humanities Honors Program**, San José State University (top admitted students)

2012 **Outstanding Presentation Award**, Harvard AUSCR China Thinks Big Competition