

# Xianling(Lily) Zhang

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## CAREER OBJECTIVE

Hello, being a new grad from Penn State, I am looking for a full-time software engineer position in the autonomous driving field.

## EDUCATION

**Penn State University, UP(Aug. 2013-- Dec. 2017)**  
B.S. in Science, Computational Statistics  
Minor in Computer Science

## KNOWLEDGE

Data Mining  
Deep Learning  
Computer Vision  
Speech Recognition  
Image Processing  
Parallel Computing  
AR/VR Product Dev  
ROS  
HCI

## SKILLS

C/C++  
C#(Unity)  
Java  
Python  
Matlab  
Javascript  
MySQL  
R  
SAS

## WORK EXPERIENCE

(Jan. 2017 -- Dec. 2017)

**Software Team-** Penn State Augmented Reality Lab  
- Work on cross platforms including Microsoft HoloLens, HTC Vive.  
- Integrate Multiplayer game mode with Photon Engine.

(May. 2016 -- Aug. 2016)

**Software Engineer Intern** - Journey Tech, Inc.  
- Collaborate with the optics team to continuously test out the better optical solutions in the software way.  
- Develop and provide support for VR gaming demos.

(Jan. 2016 -- May. 2016)

**Data Engineering Team** - Penn State Unmanned Systems  
- Develop and test the Computer Vision algorithms for aerial vehicle.  
- Utilize the SoC like Odroid XU3, Xilinx Zynq-7000 FPGA board.  
- Program under the Linux operating systems in C++ and Python.

(Sept. 2015 -- Dec. 2015)

**Research Assistant** - Penn State Cognition, Affect, and Temperament Lab  
- Assist with behavioral, eye-tracking, EEG and RSA data collection, and process with behavioral coding and processing of physiological data.

## LEADERSHIP EXPERIENCE

(Aug. 2016 -- Aug. 2017)

**Lead Software Engineer** - Penn State AR/VR Lab

(May. 2016 -- May. 2017)

**Lead Data Engineer** - PSU Unmanned Aerial Systems

## PROJECTS

### 1. Udacity Self-Driving Car Engineer Nanodegree

- **Traffic Sign Classifier** : use CNN and Load project on the AWS EC2.
- **Behavioral Cloning** : Apply LeNet and Nvidia CNN model and simulated in Autonomous Mode.
- **Advanced Lane Finding** : use OpenCV to compute camera calibration and distortion coefficient, generate undistorted, unwarped frames.
- **Vehicle Detection and Tracking** : perform HOG feature extraction on labeled training set, and train a Linear SVM classifier.

### 2. ExplorAR: Interactive Mixed Reality Games for Location Based Modules (Accepted in CHI 2018)

*My responsibilities in the team:*

- Use ARcore SDK to provide new experience to explore the world with mixed reality 3D objects.
- Embed the real-time GPS with built-in mini map in game to guide the user to destinations in different locations.

### 3. AI Based Multidimensional Data Visualization On Augmented/Virtual Reality Platforms (2017)

*My responsibilities in the team:*

- Work on cross platforms including Microsoft HoloLens, HTC Vive.
- Enable users to retrieve visualized data and interact with each feature by gesture and voice commands.

### 4. International Aerial Robotics Competition (2016)

*My responsibilities in the team:*

- Develop and test the Computer Vision algorithms for aerial vehicle tasks.
- Calibrated the camera lens' angle of view(AOV), and calculated the maximum field of view for corresponding cases.

### 5. ETWIS: Voice-Command Driven VR Game(2016)

*My responsibilities in the team:*

- Designed the Networked Multiplayer mode with Photon Engine.
- Utilize open-source Speech Recognition package, CMU Sphinx4.

### 6. Projection Mapping with Kinect (2015)

*My responsibilities in the team:*

- Programmed in Java with Kinect to detect the human gestures and movements.

## ACHIEVEMENTS

- \* 2015 Code PSU, 3rd Prize
- \* 2016 Reality Virtually MIT Hackathon, Top 10 Finalist
- \* 2017 USens Developer Challenge, Top 10 Finalist
- \* 2018 explorAR accepted for inclusion in CHI 2018

## RELATED COURSEWORK

**Robotics: Perception** - University of Pennsylvania  
(Earned Certificate on Coursera)

**Neural Networks and Deep Learning** - Deep Learning.AI  
(Earned Certificate on Coursera)

Udacity Self-Driving Car Engineer Nanodegree(Ongoing)