

# Xianling(Lily) Zhang

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## CAREER OBJECTIVE

Seeking a position as Software Engineer(Perception), Autonomous Driving.

## EDUCATION

**Penn State University, UP(Aug. 2013-- Dec. 2017)**

B.S. in Science, Computational Statistics  
Minor in Computer Science

## KNOWLEDGE

Deep Learning  
Computer Vision  
Computer Graphics  
Data Mining  
Linear Algebra, Calculus  
Parallel Computing  
AR/VR Product Dev  
Robotics System  
Perception Sensors

## 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 Microsoft Hololens, HTC Vive to quickly develop demos.  
(RGB-D camera, Infrared Sensors, C#, C++, Java, JavaScript, Python)

(May. 2016 -- Aug. 2016)

**Software Engineer Intern** - Journey Tech, Inc. Beijing

- Collaborate with the optics team to continuously improve optical solutions for AR glasses development kit.  
- Develop and provide support for VR gaming demos.  
(C++, OpenCV, C#, Unity3D, Perception Sensors)

(Jan. 2016 -- May. 2016)

**Computer Vision Team** - PSU Unmanned Aerial Systems

- Develop and test the Computer Vision algorithms for drones.  
- Data collection and analysis for ground target detection.  
(C++, C, Python, Shell Scripting, OpenCV, Odroid XU3, FPGA Board)

(Aug. 2015 -- Jan. 2016)

**Embedded System Team** - PSU Unmanned Aerial Systems

- Work with sensor technologies such as LiDAR, IMU, Radar, 2D laser scanning rangefinder.  
(C++, C, SLAM, Kalman Filter)

## LEADERSHIP EXPERIENCE

(Aug. 2016 -- Aug. 2017)

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

(Jan 2016 -- May. 2016)

**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.
- Calibrate 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:*

- Design the multiplayer game mode with Photon Engine.
- Utilize open-source Speech Recognition package, CMU Sphinx4.

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

*My responsibilities in the team:*

- Programm 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)