

# William Xie

willxie.com | williamgxie@gmail | 310.719.5388

## EDUCATION

### UNIV. OF TEXAS AT AUSTIN

M.S. in Computer Science

May 2016 | Austin, TX

Cum. GPA: 3.67 / 4.0

### RICE UNIVERSITY

B.S. in Electrical and Computer Engineering

May 2014 | Houston, TX

Cum. GPA: 3.74 / 4.33

Major GPA: 3.80 / 4.33

## LINKS

Website:// [willxie.com](http://willxie.com)

LinkedIn:// [willxie](#)

Github:// [willxie](#)

## SKILLS

### PROGRAMMING AND TOOLS

Proficient: C++ • Python

Familiar: C/embedded C • BigQuerySQL

### PLATFORMS

PyTorch • Tensorflow • ROS • OpenCV

Linux • Google Cloud Platform

### TEACHING

Teaching Assistant:

Machine Learning

Software Engineering

Operating Systems Honors

### ADVANCED COURSEWORK

Computer Vision

Machine Learning

Autonomous Robotics

Natural Language Processing

Probabilistic Graphical Models

Graduate Probability

Wireless Networking

### RESEARCH AND PATENTS

[willxie.com/publications](http://willxie.com/publications)

## EXPERIENCE

### CRUISE (AUTONOMOUS VEHICLE) | Senior Software Engineer

July 2017 - Current | San Francisco, CA

- Developed and deployed Lidar-first algorithms and systems for a fleet of self-driving cars leading to 4 patents filed related to deep learning systems.
- Conducted 200+ algorithm and ML interviews; helped Cruise transitioned from heuristics to ML-first org and scaled from 250 to 2000+.

### UNIVERSITY OF TEXAS BUILDING-WIDE INTELLIGENCE LAB | Research Assistant

Jan 2015 - May 2016 | Austin, TX

- Researched methods for robot active search using object relationships.
- Built services in ROS to use Point Cloud Library with the Segbots.
- Researched language grounding by mapping visual attributes to predicates derived from natural language.

### MIT LINCOLN LABORATORY | Research Intern

May 2015 - August 2015 | Lexington, MA

- Researched methods for video alerting and distributed tracking for aerial, top-down video footage from small drones.
- Built a software system that combines change detection, object tracking, and track classification for low pixels-on-target objects.

### RICE UNIVERSITY MULTI-ROBOT SYSTEMS LABORATORY | Research Assistant

May 2013 - September 2014 | Houston, TX

- Researched and published a distributed path planning algorithm and a distributed motion controller for multi-robot transport.
- Developed a reliable bootloader for simultaneously and wirelessly programming multiple robots. Greatly improved the workflow of robot software development and experimental data gathering.
- Built a fault-tolerant communication protocol between two asynchronous processors to allow long, continuous, error-free operation for the robot.
- Developed drivers and API for the new omnidirectional robotic gripper.

## PROJECTS

### PREDICTING ATARI GAME FRAMES | Research Project

Researched and developed 3 different Siamese convolutional neural networks with motion-equivariance regularizer for the action-conditional video prediction problem in the Atari domain.

### ARCANE | Undergraduate Capstone Project

Co-founded and developed a wearable navigational aid for the visually impaired. In an interdisciplinary team of 6 engineers, we created a novel system that uses stereovision to capture depth information from the environment and then wirelessly transfer the data for haptics feedback.