

# Ziqi(Charles) Gan

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## EDUCATION

### UNIVERSITY OF CALIFORNIA SAN DIEGO

#### UNDERGRADUATE

Expected June 2018 | La Jolla, CA  
 Math-Computer Science  
 Economics Minor  
 Provost's Honors (Most quarters)  
 Cum. GPA: 3.57 / 4.0  
 Major GPA: 3.75 / 4.0

## INTERESTS:

Internship in:  
 Software Engineer  
 (Game Developing Preferred)  
 Web Developer  
 Data Analyst

## COURSEWORK

### COMPUTER SCIENCE

Neural Networks  
 Advanced Computer Graphics  
 Advanced Data Structure  
 Virtual Reality Technology  
 Software Engineering  
 Computer Architecture  
 Algorithms

### MATH

Numerical Analysis  
 Combinatorics  
 Mathematical Reasoning  
 Statistics

### ECONOMICS:

Econometrics  
 Microeconomics Series  
 Decisions Under Uncertainty

## SKILLS

### PROGRAMMING

Python:  
 Machine Learning • NumPy • Pandas  
 C/C++  
 Data Structures • OpenGL  
 • Unreal Engine  
 Java:  
 Android Application  
 Matlab:  
 Lab Automation  
 Techniques:  
 Git • Agile • Design Patterns •  $\text{\LaTeX}$   
 Learning:  
 • Angular.js • Unity3D • Node.js

## EXPERIENCE

### NEAT LABS AT UCSD | UNDERGRADUATE RESEARCHER

July 2017 - Present | La Jolla, CA neatlabs.ucsd.edu

- The major research interest of Neural Engineering and Translation (NEAT) Labs is to understand better how human and animal brains function.
- My work: Design a behavior box for automated experiments and perform data analysis on electroencephalogram (EEG) signal and behavior data.
- Skills: Matlab • Python

### IEEE UC SAN DIEGO | QUARTERLY PROJECT TEAM MEMBER

Mar 2016 - Dec 2016 | La Jolla, CA

- I participated in two consecutive quarters at IEEE UC San Diego's quarterly project team. Me and my teammates created a robot that can dance with music beats and a website based on Node.js that can be used for controlling the home electronic devices. Both projects are based on Arduino Platform

### PINV INTERNATIONAL INC. | CO-FOUNDER/TECH STAFF

Sep 2015 - Jan 2016 | San Diego, CA

- I participated in the initial development phase of an E-Commercial website www.gopinv.com. We sold Asian snacks to students in various universities. The company was acquired by our competitor Yamibuy.com
- Business management strategies for start-up company
- Website construction and maintenance

## PROJECT

### 3D AIR HOCKEY FOR OCULUS RIFT

June 2017

Me and my teammate designed a VR 3-D Air Hockey game that runs on Oculus Rift. It also supports Leap Motion controller.

- Design from scratch using C++, Oculus, and Leap Motion SDK without any help of game engines.
- Using RPC library to support multiplayer

### RAY-TRACING STRUCTURE FOR OFF-LINE RENDERING

March 2017

I implemented a ray-tracing structure in C++ which can render image with input files that contain different geometries based on different shading formulas. The project was designed from scratch and without the help of OpenGL library.

### NEURAL NETWORK

Sep 2016 - Dec 2016

Me and my teammates studied and implemented different kinds of neural networks. We constructed Logistic and Softmax regression with back-propagation from scratch, and implemented CNN and RNN with Keras.

- Amazon Web Service
- Python / NumPy

### ANDROID APPLICATION: COUPLE TONES

March 2016 - June 2016

This application is basically used to track the whereabouts of couples. The user can pair up with her/his boy/girlfriend and couples can get to know the up-to-date status of each other.

- Android Studio
- Design patterns and software auto-building tools
- Google services APIs such as Google Map and Firebase.