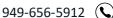


# Mutian Xu

Homepage: mutianxu.github.io







mutianx1@uci.edu



Irvine, CA (Q)



#### **EDUCATION**

#### 2018.09-Present Universtiy of California, Irvine

#### Computer Engineering (Master, GPA 3.59/4.0)

Coursework: Introduction to AI, Design and Analysis of Algorithms, Computer Architecture, Operating System, Information Retrieval, System Security, Project in Computer Vision, High-performance Computing, online course of Machine Learning & Deep Learning.

## 2014.08-2018.06

#### Xidian University, China Electromagnetics Tech (Bachelor, GPA 3.56/4.0)

Coursework: Linear Algebra, Probability Theory, Numerical Computational Physics, C Language Programming, Microcomputer Principle and System Design, Digital Circuit and Simulated Circuit, Singlechip Microcomputer.

#### PROJECT EXPERIENCE

#### 2019.07-11

#### Research Internship at Multimedia Lab, Shenzhen Institutes of Advanced Technology

(Topics: **3D point cloud processing and Deep learning**. Supervised by Prof. Yu Qiao)

- Have submitted a paper as the 1st author for CVPR2020.
- Read related papers and explore the limitations of current methods in 3D point cloud classification and segmentation tasks;
- Mainly based on the property such as permutation invariance of 3D point cloud data to design the novel model combined with different methods and mechanisms;
- Use Pytorch on the coding level to realize algorithms and do experiments on various datasets.

#### 2019.04-06

#### 3D Object Reconstrution Based on Structured Light

- Implement image rotation, camera calibration and triangulation;
- Use thresholding distances, user assisted pruning and hole filling for mesh-clean and smoothing;
- Use MeshLab for 3D alignment and Poisson reconstruction;
- Use Blender to show the final result.

#### 2019.04-06

#### The Parallel Implementation on GA for Solving TSP

- Implement the Genetic Algorithm on the Traveling Salesman Problem;
- Use the multiprocessing library of python to parallelize the initial population and the evaluation parts;
- Parallelize the greedy algorithm and add non-migration and migration methods on previous work.

#### 2019.02-04

#### Design and Implementation of Search Engine Based on Inverted Index and Merging

- Use the XML tree to crawl the URL of the UCI ICS School homepage, and identify the URL with the most external links;
- Search the crawled webpage using Beautifulsoup to get the content of the body part of the webpage, extract keywords using NLTK tokenizer, and use TF-IDF technology to inverted-index the text;
- Design a GUI interface to facilitate the user to complete the search.

#### 2019.01-03

#### Artificial Intelligence Course Project: Othello Game

- Write Python code with object-oriented thinking, split the whole program into four files, which are responsible for board, player, AI and game classes, making the whole structure clear, portable and easy to maintain;
- Establish an imaginary enemy, use the min-max and the alpha-beta pruning algorithm, set the weight of the board position to establish an evaluation function, and let the AI train through self-competition to continuously optimize the chess tricks;
- Let two AI battle and test the performance of algorithms.

#### **TECHNICAL SKILLS**

Programming Language: Python, java, C++

Tools: Pytorch, Numpy, Pycharm, Jupyter, Linux, Matlab, Octave, Eclipse

## **CERTIFICATE**

**TOFFL: 104** GRE: 325

2017 second-class school-level scholarship&2016 third-class school-level scholarship.

### **ABOUT ME**

I have a strong interest in Computer Vision. Although just stepped into this field, I have been participating in different projects and high-quality research, which can prove my potential in this field. In my daily life, I have got the Piano Professional Certificate Level 10 and the third place in school singer contest. I was a department leader of my undergraduate student union. I believe these experience, great enthusiasm and self-motivation will be my driving force in this field.