# Sicheng Wang

One Miramar Street, La Jolla, CA 92092

📱 (858)319-5237  •  ✉ siw029@ucsd.edu  •  in sicheng-wang-

## Education

**University of California San Diego**                                                    **San Diego, CA**
- Master of Science in Computer Science                                          *Sept. 2021 — Dec. 2022*
- Course: Operating System, Database System, Algorithm Design and Analysis

**Tsinghua University**                                                                        **Beijing, China**
- Bachelor of Engineering in Automation, GPA: 3.83/4.00 (Ranked 24/183)          *Aug. 2017 — Jul. 2021*
- Course: Data Structures, Computer Networks, Computer Principles, Numerical Analysis and Algorithms, Artificial Intelligence, Pattern Recognition and Machine Learning, Operations Research, Nonlinear System and Control
- Awards: Philobiblon Scholarship (**Top 5%**), 2019 | Guangyao Scholarship (**Top 10%**), 2018

## Experience

**Research Intern**                                                                              **San Diego, CA**
*Advisor: Prof. Pengtao Xie, ECE, UCSD*                                            *Feb. 2020 — Jul. 2020*
**CERT: Contrastive Self-supervised Learning for Language Understanding**
- Proposed a novel language data augmentation technique with back translation to boost the contrastive training.
- Designed and conducted a comprehensive set of experiments independently using the **BERT** model and the structure of **SimCLR** for Self-supervised Learning. Increased the accuracy by 1.1 % on SST-2 task.
- Utilized **Kubernetes** and Nautilus cluster to conduct CERT experiments on SQuAD v1.1, SST-2 and MRPC of the General Language Understanding Evaluation (GLUE) benchmark.

## Projects

**Sentiment Analysis & Filter System for Danmu Video Comments**

*Team Leader*                                                                                  *Dec. 2018 — Mar. 2019*
- Constructed a system that can analysis the emotion of Danmu(Bullet Screen, extremely popular among Chinese young people) comments and filter the undesirable ones according to video viewers' emotional preference.
- Used Python web-crawling framework **Scrapy** to collect 40,000 video comments from China's most popular Danmu video website "www.bilibili.com". Segmented them into Chinese words with **Jieba** module.
- Applied the **LSTM** model and implemented **Pseudo-Labeling** learning algorithm as a semi-supervised approach to predict the 7 dimensional emotion of the extracted keywords.
- Utilized Bilibili's **XML** Danmu API to implement the filtering function.
- Led a 3-member team, won the second prize and Best Rookie Award (**Top 16/784**) in 37th THU Challenge Cup.

**P2P Network Chat System Based on Central Server**

*Independent Developer*                                                                   *Nov. 2019 — Dec. 2019*
- Developed a chat system, which provides P2P communication, group chat, file transmission, record maintenance and other functions. Constructed a user-friendly GUI with Python library **PyQt5**.
- Implemented **multi-threaded socket** programming to enable concurrent communications between users.
- Designed the Client/Server and P2P protocol to protect users' communication privacy.

**Hotel Reservation and Management System**

*Independent Developer*                                                                   *Jul. 2018 — Aug. 2018*
- Used C++ and **Qt** to construct a hotel reservation system like Airbnb, which provides corresponding functions for platform administrator, hotel owner and manager, customer to complete online hotel business activities.
- Designed 5 cardinal classes and implemented **SQL** interface of Qt to create database connection.

## Skills

- Programming Languages: Python, C/C++, C#, MATLAB, Verilog HDL, Javascript
- Framework and Tools: Qt, PyQt5, Kubernetes, SQL, Git, jQuery/CSS/HTML, Pytorch, Numpy, Pandas