

# Sicheng Wang

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## Education

### University of California San Diego

◦ Master of Science in Computer Science, GPA: 4.00/4.00

San Diego, CA

Sept. 2021 — Dec. 2022

### Tsinghua University

◦ Bachelor of Engineering in Automation, GPA: 3.83/4.00

Beijing, China

Aug. 2017 — Jul. 2021

◦ Awards: Philobiblon Scholarship (**Top 5%**), 2019 | Guangyao Scholarship (**Top 10%**), 2018

## Experience

### Research Intern

Advisor: Prof. Pengtao Xie, ECE, UCSD

San Diego, CA

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 **Docker** images and **Kubernetes** 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

Dec. 2018 — Mar. 2019

- Constructed a system that can analysis the emotion of Danmu(Bullet Screen) comments and filter the undesirable ones according to video viewers' emotional preference.
- Used Python web-crawling tool **Scrapy** to collect 40,000 video comments and segmented them into Chinese words.
- 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.

### Travel Story Sharing Website(Javascript)

Nov. 2021 — Dec. 2021

- Built a website where people can register, login, post tweets and publish comments: [www.sisicheng.com](http://www.sisicheng.com)
- Created **RESTful** API for travel stories and comments with **Node.js** and **Express** router. Utilized **Bootstrap 5** for responsive web design and **MongoDB** for content data & session info storage.

### P2P Network Chat System Based on Central Server(Python)

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(C++)

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 **SQLite** interface of Qt to create database connection.

### Nachos: Operating System Simulator(Java)

Oct. 2021 — Dec. 2021

- Realized fundamental mechanisms in thread, process and memory management, like thread join, conditional variable, memory allocation for process, file system calls processing, virtual to physical address translation.

### Online Go Game(Haskell)

Nov. 2021 — Dec. 2021

### Move Match Equation Game(C#)

Oct. 2019 — Nov. 2019

### TPS Face Transformation(MATLAB)

Nov. 2019 — Dec. 2019

## Skills

- Programming Languages: Python, C/C++, C#, MATLAB, Verilog HDL, Javascript, Java, Haskell
- Framework and Tools: Qt, Kubernetes, Docker, SQL, Git, jQuery/CSS/HTML, MongoDB, Nodejs, Pytorch