Guoheng **Sun**

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Education

Sichuan University	*Sichuan, China*
BACHELOR OF CYBERSECURITY, SCHOOL OF CYBER SCIENCE AND ENGINEERING	*Sep 2019 - Jun 2024 (Expected)*

- GPA : 3.9 / 4.0
- Rank : 2 / 189

Project Experience

Defense mechanism of large character set CAPTCHA based on adversarial samples	*Advisor: Prof. Haizhou Wang*
NATIONAL-LEVEL STUDENT INNOVATION AND ENTREPRENEURSHIP PROJECT	*Aug 2021 – Nov 2022*

- Python, PyTorch, ssd, faster-rcnn, yolo, FGSM, etc.
- We added adversarial samples in both detection and recognition phases to improve the defense of Chinese click-based CAPTCHA against deep neural networks.
- I was mainly responsible for the detection part, including the improvement of architecture, training, and generation of adversarial samples.
- I participated in the design of some of the experiments and the writing of the paper. I completed most of the experiments.

SylixOS-based face recognition classroom sign-in system	*Advisor: Prof. zhiyang Fang*
COMPETITION PROJECT	*Jul 2022 – Aug 2022*

- C++, Python, SylixOS, Ncnn, OpenCV
- We implemented face detection, live detection and face recognition on the NCNN framework and deployed it to the embedded operating system.
- I was responsible for the training, pruning, transformation and deployment of the model.
- I completed the integration of each module and achieved high speed by multi-threading.

Prediction and Analysis of Patient Data with Machine Learning	*Advisor: Prof. Qi Liu & Mao Chen*
PROVINCIAL-LEVEL STUDENT INNOVATION AND ENTREPRENEURSHIP PROJECT	*Oct 2021 – Aug 2022*

- Python, PyTorch, sklearn, Pandas
- We collected clinical data from patients and used the processed tabular data to build machine learning models and analyze the results.
- I completed the data pre-processing, feature selection. I researched, built and evaluated common machine learning methods on our dataset.

Virtual simulation: Emergency treatment of food poisoning incidents	*Advisor: Prof. Xiaoli Zou*
COMPETITION PROJECT	*Aug 2021 – Aug 2022*

- Unity, C#, Blender
- We implemented a medical experiment project based on Unity engine. It contains modules for dialogue, UI, multiple choice question, mouse interaction operation, scoring, etc.
- I completed the design of the framework and did all the work except the theme and experimental design.
- I implemented the UI module based on *Stack*, the dialogue module using *Coroutines*, and the mouse interaction module using *Ray*.

Skills

Languages	Python > C = C# = C++ > JAVA > HTML = JavaScript = CSS > etc.
Tool Kits	Git, Bash, Docker, MySQL, etc.
Others	PyTorch, TensorFlow, Sklearn, Linux, Unity, Blender, Burpsuite, LaTeX, etc.

Awards

2022	*National Scholarship*
2022	*1st Prize*，**University Annual Scholarship**
2022	*National 1st Prize*，**China International College Students "Internet+"Internet innovation and Entrepreneurship Competition**
2022	*National 3rd Prize*，**"China Software Cup" College Student Software Design Competition**
2021&2022	*Outstanding Student*，**Sichuan University**