Qi Ma

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EDUCATION

Tsinghua University 2020.8 - Current

B.E in Computer Software Engineering (junior year)

GPA: 3.92/4.00 Ranking: 3/93

SKILLS

ProgrammingLanguages	Python,C++,C,JavaScript,Java,C,SQL,MATLAB,R,Verilog
Frameworks	PyTorch,Django,Android,WeChat Miniprogram,Flask,Qt,Wireshark, Metasploit
Language	TOEFL 103, GRE 322

RESEARCH EXPERIENCE

Institute of Software System Engineering,Tsinghua University 2021.3 - 2021.7

Advised by Associate Professor Hai Wan, Cybersecurity and ML

· Carried out SRT project "Research on the Classification of Attack Scenarios Based on Machine Learning"

· Proposed and implemented a general division algorithm for network packets, which can identify and classify several types of Cyberattack.

Institute of Computer Graphics and Computer Aided Design,Tsinghua University 2022.1 - 2023.5

Advised by Associate Professor Feng Xu, 3D Vision and Graphics/Motion Capture

· Real-time estimation of human pose and translation using sparse IMU sensors and monocular RGB cameras.

· Collaborate with OPPO to develop real-time human posture estimation based on IMU sensors and cameras in smart watch, smart glasses, and mobile phones.

The Movement Lab, Stanford University 2023.6 - Current

Advised by Prof. Karen Liu and Dr. Wouwe, 3D Vision and Graphics/Motion Capture

· Automatic marker labelling for optimal motion capture.

RESEARCH PUBLICATION

Shaohua Pan, **Qi Ma**, Xinyu Yi, Weifeng Hu, Xiong Wang, Xingkang Zhou, Jijunnan LI, Feng Xu"*Fusing Monocular Images and Sparse IMU Signals for Real-time Human Motion Capture*", SIGGRAPH ASIA 2023.

INTERN

Xiaomi 2023.6 - 2023.7

Software Development Intern

· IoT platform end-side model deployment and development, including embedded platform deployment of intelligent speech dialog system (based on ChatGPT), Nuttx OS end-side application development, etc.

PROJECT

THU BBS 2023.2 - 2023.6

"Mobile Application Software Development" course assignment, team leader

· Github link: https://github.com/seamoon76/THU-BBS

· A campus forum app for students, a platform for students to share news, make friends and chat.

· front-end Android, back-end python-flask

Mini-DBMS 2023.2 - 2023.6

"Principles of Database Systems" course assignment, team leader

· Github link: https://github.com/seamoon76/Mini-DBMS

· A simple DBMS system that supports two isolation levels, Serializable and Read Committed

ALSA-Music-Player 2023.2 - 2023.6

"Embedded System" course assignment, team leader

· Github link: https://github.com/seamoon76/ALSA-Music-Player

· ALSA-based audio player, supports WAV/MP3, with audio equalizer function

Multilingual-Web-IDE 2022.7 - 2022.9

"Web front-end technology training, programming practice" course assignment, team leader

· Github link: https://github.com/seamoon76/Multilingual-Web-IDE

· Support online compilation or interpretation of multiple languages such as python, C, and C++

· front-end Vue, element-UI, back-end python-flask framework, database sqlite

Newborn/Children Infusion Nursing Record Wechat Mini Program CareForBaby 2022.9 - 2022.12

"Software Engineering" Coursework, team Leader

· Github link: https://github.com/seamoon76/CareForBaby

· front end: WeChat MiniProgram, back end: Django

· Support patient information management, infusion management, patrol management, automatic statistics and other functions

Implement a new file system for xv6 operating system 2022.2 - 2022.6

"Operating System" course assignment , team leader

· Github link: https://github.com/seamoon76/new_file_system_for_xv6

· Implement the Ext3,Ext4 filesystem in C for XV6

GUI text editor based on MASM assembly language 2022.9 - 2022.12

Assembly and Compilation Principles course assignment, team leader

· Github link: https://github.com/seamoon76/masm32-text-editor

· Developed based on MASM32 assembly language and has a graphical user interface

· With advanced features such as theme settings, log generation, etc.

Compiler from C++ to LLVM 2022.9 - 2022.12

Assembly and Compilation Principles course assignment, team leader

· Github link: https://github.com/seamoon76/cpp2llvm

· Converts C++ to LLVM intermediate representation based on Python-Lex-Yacc and LLVMLite compilers

· Support comprehensive error handling, preprocessing, multidimensional array operations, and scope mechanisms