Hantong Liu

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Education

Nanjing University, School of Electronic Science and Engineering Nanjing, China
GPA: 4.37/5.00(Overall), 3.72/4.00(WES), B. S. in Electronic Information Science and Technology 2017–2021

- Weighted average grade in CS related courses: 90/100
- Selective courses regarding computer science: Basics of Programming, Data Structure, Algorithm Design & Analysis, Introduction to Computer Systems, Operating Systems. Self-learnt in Summer 2020: Computer Networks. Currently taking in Fall 2020: Introduction to Database, Advanced Programming in Java.

University of California, Berkeley Berkeley, California, the US
Summer Session D, GPA: 3.70/4.00 Summer 2019

- Courses: Special Topics in Design Innovation: Human-Centered Design Challenge, Intro to Public Speaking.

Research Experience

Institute of Computer Software, Nanjing University Nanjing, China
Undergraduate Research Intern in System & Program Analysis Research Group Spring 2020–Current

- **Research purpose**: Present a comprehensive solution for code clone detection in Git repository
- **Core process**: Analysis on 100 plus actual course assignments, especially those from undergraduate level course: Operating Systems, knowledge from program synthesis and classifying methods in machine learning.
- **Prospect:** After adequate features regarding programming language and overall project structure extracted, we are now turning to a more general perspective: the working flow of programmers while coding.

Projects

- **SRTS Based on Virtual Reality and Motion Capture** Nanjing University June, 2018–June, 2019
  Provincial College Students' Innovative Entrepreneurial Training Plan Program
  - Group leader, in charge of coordinating and software implementation.
  - A motion sensing game was implemented using Unity 3D and SDK of the motion capturing equipment.
  - A National Invention Patent was applied and finally authorized in August, 2020.
- **NEMU NJU-Emulator** Nanjing University Fall 2019
  Introduction to Computer Systems, Course Assignment
  - Implemented a simple yet fully functional x86 virtual machine, using C on Linux with 3.5K plus lines of code.
  - Models consisting of arithmetic operation, instruction decoding, CPU caching, virtual address transforming, Interrupt Handling were implemented
  - Capable of running medium-sized executable program, e.g. PAL.
- **A Simplified OS Kernel** Nanjing University Spring 2020
  Operating Systems (Honor Class), Course Assignment
  - A simple yet fundamental OS kernel based on AbstractMachine, using C on Linux with 3K plus lines of code.
  - 3 core models of operating systems were implemented: physical memory management using slabs and free list, kernel multi-threading using RR scheduling, Ext4-like virtual file system without crush consistency.
  - Based on APIs provided above, application programmers can be able to create applications, using physical memory and making consistent storage.

Publications

1. J. Zhuang, Y. Li, Z. Qiu, **H. Liu**, L. Yang, Q. Zeng and Y. Deng. "A Stroke Rehabilitation Training System Based on Virtual Reality and Inertial Motion Capture"[P], Nanjing University, CN108854034A, April 2018

Skills

- **Programming Languages:** C/C++, Python, C#
- **Development Tools:** Linux, Git, Unity 3D, LaTeX
- **Development Platforms:** Linux/Unix, Windows

Languages

- **English:** Academic Fluent
  - **EXAM:** TOEFL iBT:107(W28), GRE: 322(AW4.0)
- **Chinese:** Native

Scholarships and Awards

- People's Scholarship, China — 2017–2018, 2018–2019 Academic Years
- Honorable Mention, MCM/ICM 2020 — 2020 Spring