

# Yichao Sheng

## PROFILE

As a Computer Science student with a strong interest in high-tech innovations, I focus on mastering core skills like data structures and algorithms while also valuing nonlinear problem-solving and soft skills. I seek out interdisciplinary experiences beyond CS to broaden my perspective, enhance creativity, and deepen my understanding of the technologies shaping our future. This approach not only strengthens my technical expertise but also helps me stand out with a unique and well-rounded skill set.

## EDUCATION

Technische Universität Dresden | Computer Modeling and Simulation (Currently pursuing a Master's degree)  
Oct 2023 -

Major: High Performance Computing, Scientific Programming, Machine Learning for Robotics, Advanced Problem Solving and Search, Bioinformatics, Automotive Software Engineering, Design Patterns and Frameworks, User Interface.

## EXPERIENCE

Robotic Hand Simulator Project In [Learning, Adaptive Systems and Robotics \(LASR\)](#) | Supervisor: Roberto Calandra

- **Objective:** Enhanced an existing robotic hand simulator by replacing the rigid body haptic simulation with a more realistic soft body simulation.
- **Responsibilities:**
  - Decoupled the original framework from the software to enable integration with a new framework that supports soft body simulation.
  - Adjusted and optimized parameters such as density and weight to improve the realism of the simulation.
- **Outcome:** Successfully implemented a more accurate haptic feedback system, significantly enhancing the simulator's ability to mimic real-world interactions.

CPU Visualization Simulator Project

- **Objective:** Developed a visual simulator to represent the operational processes of a CPU.
- **Responsibilities:**
  - Visualized the CPU's instruction cycle, including the fetching of instructions, conversion to microinstructions, and translation into machine code.
  - Implemented ALU (Arithmetic Logic Unit) operations visualization, covering arithmetic operations (addition, subtraction, etc.), and number representations (signed magnitude, one's complement, two's complement).
  - Displayed the instruction pipeline, showing the flow and stages of instruction execution.
- **Outcome:** The simulator provided a comprehensive visual representation of CPU operations, aiding in the understanding of complex computational processes.

## Special Skills

Professional Skills:

- Proficient in Python programming.
- Experienced with Linux Shell.
- Capable of working independently with a structured and organized approach.
- Software Development Practices
- Data Structures and Algorithms
- PyTorch experience
- Database Management
- Debugging and Profiling Tools

## Publication

1. Application of Meta-Learning in Cyberspace Security: A Survey, 2022, Digital Communications and Networks 2352-8648, Aimin Yang, Chaomeng Lu, Jie Li, Xiangdong Huang, Tianhao Ji, Xichang Li, Yichao Sheng, [URL](#)
2. Juvenile Mental Health Evaluation System Based on Principal Component Analysis, 2022, International Journal of Education and Economics 2617-4227, Yongxiang Li, Yichao Sheng, Yanfeng He, [URL](#) (Vol 4, No 3)
3. Gold Cluster Optimal Structure Prediction Based on Random Forest, 2022, International Journal of Education and Economics 2617-4227, Renzhuo Wang, Yuwen Sun, Yichao Sheng, [URL](#) (Vol 4, No 3)