

Jiahao Zhang

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EDUCATION

University of Illinois Urbana-Champaign

Master in Electrical & Computer Engineering | GPA: 3.8/4.0

Expected Dec. 2023

Champaign, IL

Zhejiang University

Bachelor in Automation | GPA: 3.9/4.0

Aug. 2019 – July 2022

Hangzhou, Zhejiang

EXPERIENCE

Software Engineer Intern, Tencent | [\[Link\]](#)

More Fun Studio

Oct. 2022 – Jan. 2023

Remote

- Developed a customized collision system in Unreal 5 using C++.
- Created two custom object movements and an object management system.
- Conducted performance analysis and optimization of the system.

Research Assistant, Zhejiang University | [\[Paper\]](#)

Supervisor: Prof. Yan He

Mar. 2021 - May 2022

Hangzhou, China

- Led a team of 3 in the development and publication of a semantic topological map.
- Implemented image processing pipeline to extract objects and relations between them, and iteratively updated relations to improve map accuracy.
- Responsible for the development of a custom Mask-RCNN Net in TensorFlow, and deployed the entire process on Ubuntu using ROS.

PERSONAL PROJECTS

Reliable Packet Transfer Protocol based on UDP | [\[Link\]](#)

University of Illinois Urbana-Champaign

Oct. 2022

Champaign, IL

- Transferred packets using UDP sockets in socket programming in C/C++.
- Be able to tolerate packet drops, allow other concurrent connections.

Mini Game: Escape the Maze | [\[Link\]](#)

University of Illinois Urbana-Champaign

Oct. 2022

Champaign, IL

- Developed a 5-min Unreal blueprint game featuring 3 unique level segments: A Super Jump and Bullet Dodging segment, a challenging Maze Escape segment, and a Boss Battle segment.
- Designed "Pursuer" enemy with looping patrol path and dynamic player chase behavior, and "Mortar" enemy with projectile launches and explosive knockback effect.
- Integrated a health system, UI Interface and proper guidance to provide an engaging and immersive gaming experience.

Robots, Drones, and Robotic Arms Control | [\[Link\]](#)

Zhejiang University

May 2022

Hangzhou, China

- Applied RRT_STAR and DWA algorithms for trajectory planning in Gazebo
- Controlled a drone to hover in the air using the PID algorithm via ROS.
- Guided a robotic arm to move at a given route and place objects in the order by Coppelia Sim.

Wireless Tracking Charger based on Computer Vision | [\[Link\]](#)

Zhejiang University

Nov 2021

Hangzhou, China

- Developed a wireless tracking charger that detects the location of a phone and moves the charger to the phone for charging.
- Visual recognition and coordinate extraction by OpenCV on Windows/Raspberry Pi.
- Use Arduino to receive data, send out signals and control motors.

SKILLS

- **Languages:** C/C++, Python, Matlab, Bash, Markdown, \LaTeX
- **Developer Tools:** Git, Vim, Docker, ROS, Unreal Engine, PyTorch, Tensorflow