

Zhihan Wang

 Zhihan-Wang-USC |  www.bmomark.com |  zhihanwa@usc.edu |  +1 (213) 551-4873

RESEARCH INTEREST

Multi-agent systems, Planning, Robotics, Control, Heuristic and Combinatorial Search, Machine Learning, Artificial Intelligence

EDUCATION

University of Southern California

Aug. 2019 - May. 2023

B.S. in Computer Science

Los Angeles, CA

B.S. in Applied and Computational Mathematics

Math Major: 4.00/4.00, Computer Science Major: 4.00/4.00, GPA: 3.94/4.00

Southern University of Science and Technology

Spring 2021

Exchange student in *Computer Science*

Shenzhen, China

WORKING PAPER

1. Weizhe Chen*, **Zhihan Wang***, Jiaoyang Li, Sven Koenig and Bistra Dilkina “Algorithm Selection for Suboptimal Multi-Agent Path Finding” in review at 2023 International Conference on Autonomous Agents and Multiagent Systems (AAMAS-23) (Accepted by the 5th International Workshop on Multi-Agent Path Finding, part of AAI-23)

RESEARCH EXPERIENCE

USC Intelligent Decision Making Lab (IDM-Lab)

Jan. 2022 - present

Research Assistant

Los Angeles, CA

- Advisor: Sven Koenig
- Develop Algorithm Selector for Multi-Agent Path-Finding Problem using Computer Vision and Deep Learning techniques
- Study state of the art MAPF solvers
- Build dataset from scratch. Automate feature sampling and label generation on AWS EC2 instances
- Apply state-of-the-art deep-learning models as base networks
- Experiment with different network architecture, loss functions, custom augmentations, multi-task learning
- Visualize data and results
- Build automated training and testing workflow

WORK EXPERIENCE

Meituan

May. 2021 - Aug. 2021

Backend Developer Intern

Beijing, China

- Build components for the Quality-Control Management System backend of Meituan Fresh
- Maintain and develop features, coordinate with upstream and downstream services. Design API, make rpc calls, query and manage DB, unit testing, deployment and rollback using CI/CD software, set up and monitor alarms and metrics
- Write 7 pieces of onboarding tutorials for the team. Read research papers on tracing infrastructure and hold 2 knowledge sharing sessions. Mentor reviewed: “beyond expectation”

Tencent Holdings Ltd.

Jul. 2020 - Oct. 2020

Backend Developer Intern, Lab Assistant

Shenzhen, China

- Interview stakeholders, design and build components for lab's Management Information System
- Assemble experiment equipment

Shenzhen Institute of Beidou Applied Technology

May. 2020 - Jun. 2020

Algorithm Developer Intern

Shenzhen, China

- Develop algorithm to back-trace riders' travel paths in metro system

TEACHING

Teaching Assistant, Grader

Fall 2021 - present

- *Algorithms* (21 Fall), *Software Development* (22 Spring), *Artificial Intelligence* (22 Fall)
- Hold office hour, review session; Grade homework, exams; Mentor student projects; Answer student's questions on piazza

Mentor, Judge

[Unihack 2021](#)

- Hold crash courses; Support participants on their projects; Help decide the awards

OTHER PROJECTS

GameAI: ConnectFourPlayer

[Link to Demo](#)

- Build game AI for connect four game implementing minimax game tree

Interactive Web Animation (Poem Visualization): Cogida & Death

[Link to Demo](#)

- Collaborate with an animation student
- Sync scroll action on webpage with animation playback. Full stack development. Content Distribution. Analytics

Client-server network

- Implemented client-server network with HTTP protocol with socket programming in C++. Supports persistent connection, multithreading, and custom download speed at connection level

Peer-to-peer network

- Implemented peer to peer network as over-lay network. Implement network layer and link layer functionalities like routing, forwarding, flooding with hard state link states algorithms in duplex multithread connections. Implement RDT application and traceroute UDT application on top of the layers

HONORS & AWARDS

USC Academic Achievement Award

2020-2022

USC Viterbi Dean's List

2020-2022

USC Dornsife Dean's List

2019-2022

USC ACM Trojan Hacks 2nd Place

2019

Euclid Mathematics Contest top 1%

2018

SKILLS

Languages Python, C/C++ , Java, SQL, Node.js, MATLAB

Tools Git, Docker, Slurm, PyTorch, timm, AWS, Gurobi Optimization, Solidworks, 3d Printer, Laser Cutter