Zhirui Dai

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EDUCATION

University of California San Diego   San Diego, CA, USA
Ph.D. in Electrical and Computer Engineering   *01/2022 - Current*
University of California San Diego   San Diego, CA, USA
M.S. in Electrical and Computer Engineering   *09/2019 - 06/2021*
Fudan University   Shanghai, China
B.S. in Physics   *09/2015 - 06/2019*

PUBLICATIONS

- Dai, Zhirui, et al. "Optimal Scene Graph Planning with Large Language Model Guidance." IEEE International Conference on Robotics and Automation (ICRA), 2024.   Link
- Dai, Zhirui, et al. "BEV-net: assessing social distancing compliance by joint people localization and geometric reasoning." Proceedings of the IEEE/CVF international conference on computer Vision. 2021   Link

WORK EXPERIENCE

Research Internship
XCOM Labs Inc., CA, USA   *08/2021 - 12/2021*

- Developed a better pose estimation algorithm for multi-user VR/AR remote rendering system, which improves user experience by providing lower motion-to-photon latency.
- Created a dataset for xR application head & hand pose estimation.
- Developed a neural network that predicts the pose by 90% lower error than the default OpenVR algorithm.
- Integrated the network as a module into the system and finished the system test.

Software Development Internship
Camel Microelectronics Inc., CA, USA   *01/2018 - 06/2019*

- Developed an IDE called CamelStudioX for education purposes and commercial software development of low-power SoCs. The IDE enables the users to build SoC software on a robust and efficient platform.
- Designed the software architecture, the GUI and finished its programming.
- Developed essential SoC software: soft-float library, HAL library, cross-compiler toolchains, simple make-system, an ELF analyzer-converter, serial-port software, etc..
- Deployed the IDE on servers for software distribution and update release.
- Worked with teammates to test SoC and developed software patches for hardware hotfix.

SERVICES

Teaching Assistant, ECE276B: Planning & Learning in Robotics	04/2023 - 06/2023
Mentor, ENLACE Summer Research Program	07/2022 - 08/2022
Mentor, ECE Summer Research Internship Program (SRIP)	07/2022 - 08/2022
Mentor, Summer Training Academy for Research Success (STARS)	07/2022 - 08/2022
Mentor, Guided Engineering Apprenticeship in Research (GEAR)	09/2021 - 07/2022

AWARDS & HORNORS

Electrical and Computer Engineering Department Fellowship	2022
Outstanding Graduate of Fudan University	2019

TECHNICAL SKILLS

Programming Languages: Python, C++, C, MATLAB, Swift, Java
Libraries and Tools: PyTorch, Sklearn, Pandas, Numpy, OpenCV, Open3D, Git, Docker, Kubenetes