MengYing Lin

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Education

University of Chinese Academy of Science(UCAS)   **Sept 2020-Present**

Bachelor of Engineering in UCAS (Expected 2024)   **GPA: 3.88/4 (13/126)**

University of California, Berkeley, exchange student   **Jan 2023-Aug 2023, GPA: 4/4**

Academic Experiences

Student Researcher, The Visual Information Processing and Learning (VIPL) research group

2022.01-2022.07

● Advised by Professor Shiguan Shan, extracted atomic eye movements and discerned their associated emotion patterns based on previous researches.

● Optimized an eye blink detection system to support multi-user eye tracking in both video-recorded and real-time scenarios.

Student Researcher, UC Berkeley

2023.03-2023.07

● Collaborating with graduate student Yu Sun, worked on adapting robots to brand new environment.

● Incorporated the derivative API of Mujoco into backward process to make the reward function differentiable.

● Trained an observation-affine model based on immediate past data, tune the old policy based on the refined observation.

Course Material Co-developer, the Institute of Computing Technology of Chinese Academy of Sciences

2023.06-2023.08

● Collaborated in designing course experiments for AI Computing Systems lectures developed by Professor Yunji Chen.

● Contributed to writing detailed experiment documents for coursebook development, encompassing background knowledge and step-by-step instructions.

● The outcomes will be utilized across approximately 100 universities in China.

Remote Intern, Northwestern University

2023.07-2023.09

● Supervised by Professor Zhaoran Wang, conduct research to develop a versatile framework for real-time, cost-effective planning.

● Trained a low level policy net for a variety of tasks of interest, leveraging a large language model as a high-level planner to assist in tackling complex assignments and collect the trajectory.

● Implement the training of a low-rank adaptive planning module, utilizing the generated trajectory for knowledge distillation.

Student Researcher, National Key Laboratory of Multimodal Artificial Intelligence Systems of the Institute of Automation

2023.08-2024.03

● Guided by Professor Dongbin Zhao and Associate Professor Yaran Chen of the Institute of Automation, explore efficient navigation planning by tapping into the object affinities understanding of large language model (LLM).

● Design a framework dynamically combining semantic understanding of LLMs with learned affinities from training environment, compatible with both metric-map-based and topological-graph-based policies.

● Improve the efficacy and generalization ability of navigation systems in both AI-2THOR and Habitat environments. (Paper is under review in ECCV.)

Research Intern, Institute for AI Industry Research, Tsinghua University

2024.03-Present

● Guided by Dr, [Zike Yan](#) of AIR, exploring leveraging semantic NeRF for efficient task planning in object goal navigation.
● Ongoing: integrating semantic information into NeRF representation.

Projects

Human neck pose evaluation [[Project Page](#)]

● Capture users' neck posture, infer Euler angles with Openpose and OpenCV and alert when their postures might potentially pose a threat to their long-term physical health.
● Optimized the backbone to Lightweight Openpose for faster inference.
● Enabled personalized settings and implemented a gaming module to guide real-time neck relaxation.
● 90% out of 55 people reported improvements in neck health using the system.

Cultural relic helper

● Identified the need for enhanced efficiency in classifying cultural relics during the digitization process.
● Organized and led a focused team, liaising with professors at the Capital Museum of China for in-depth guidance on frontend development for cultural relics digitalization.
● Fine tuned pre-trained models and adopt the strategy of soft-voting to classify cultural relics images with an accuracy of 83%, higher than previous researches.

Honors and Awards

UCAS Excellence Scholarship(2021, 2022, 2023)

UCAS Merit Student(June 2020, June 2021, June 2022, June 2023)

UCAS Student Organization and Involvement Awards (May, 2021)

2021 Nationwide University Student Competition Five Minute Research Presentation 2nd Prize

2021 FLTRP·ETIC Cup" English Public Speaking Contest 3rd Prize

2021 "FLTRP·ETIC Cup" English Reading Contest 2nd Prize

Art in Science Creation Competition of University of Chinese Academy of Science 3rd Prize (Dec, 2021)

2022 "FLTRP·ETIC Cup" English Reading Contest 1st Prize

2022 RoboMaster University League 3v3 Match 3rd Prize

Technical Skills

Languages: Python, C, C++, Java, HTML/CSS, Assembly, Verilog, Go.

Tools: Git, Vim, Cmake, Vivado.

API/Framework: PyTorch, Tensorflow, Scikit-learn, OpenCV, OpenGL.

Extracurricular Involvement

Peer Tutoring Role, 2021-present

● Conduct peer tutoring for several semesters, covering both math and CS courses such as Linear Algebra, Calculus, Operating Systems and Computer Architecture.
● Conduct question-and-answer sessions, assist in the creation of personalized study plan and recommend supplementary resources, empowering peers in their coursework.

President of UCAS WINGS Dancing Club, 2021-2022

● Led a dance club of 100+ members, one of the highest-rated student associations.

● Orchestrated and coordinated dance events and facilitated on-campus dance workshops by inviting dancers from reputable dance studios.

● Honored with Excellent Individual in Student Associations in UCAS (10 students annually).