**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](https://people.ucas.edu.cn/~sgshan?language=en), 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](https://yueatsprograms.github.io/), 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](http://novel.ict.ac.cn/ychen/).

● 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](https://zhaoranwang.github.io/), 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](https://scholar.google.com/citations?user=RxvYlNQAAAAJ) and Associate Professor [Yaran Chen](https://scholar.google.com/citations?hl=en&user=KZCyB_sAAAAJ) 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](https://arxiv.org/abs/2403.09971) is under review in ECCV.)

**Research Intern, Institute for AI Industry Research, Tsinghua University**

**2024.03-Present**

● Guided by Dr, [Zike Yan](https://zikeyan.github.io/) 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](https://github.com/Cassie-Lim/pose_eval)]**

● 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).