Haiyun Lyu

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haiyunlyu

Objective

Seeking a position in Robotics to improve my abilities in HRI and robotic system. Aiming to contribute to innovative projects at the intersection of robotics and AI, and practical problem-solving in fields such as Multimodal Sensing including Vision, Touch and Audio, Robot Perception, Prosthetics and intent recognition. I'm also interested in Industrialization 4.0.

Skills

- **Programming Languages:** Python/PyTorch, SQL(Advanced), Java, ROS2[Humble]
- **Data Science & Machine Learning:** Matpotlib, NumPy, scikit-learn, OpenCV
- **DevOps & Version Control:** Git, VSCodium, JupyterNotebook, HuggingFace, Colab, Docker(Beginner)
- **Robotics Tools:** Gazebo(Beginner), MuJoCo(Beginner), Blender, Arduino(Beginner), MoveIt2(Beginner), LeRobot(Beginner), PlotJuggler/Foxglove(Beginner)
- **Statistics Tools:** R/RStudio, Tableau, STATA, Alteryx

Education

- **University of Southern California (USC)** *Aug 2025 - May 2027*
  M.S. Computer Science Los Angeles, CA
  - GPA: 3.57 / 4.0
  - Class: Analysis of Algorithms, Supervised Machine Learning [Andrew Ng], Database Systems, AI & IP Law, Deep Learning(this semester), Foundations of Robotics(this semester)

- **The University of North Carolina at Chapel Hill (UNC)** *May 2025*
  B.S. Computer Science, Neuroscience Minor Chapel Hill, NC
  - GPA: 3.55 / 4.0
  - Class: Artificial Intelligence, Transfer Learning, Object-Oriented Programming, Computer Organization, Software Engineering, Automata & Turing Machine, Data Structure, Deep Learning, Computational Imaging and Display
  - Honor: Dean's List, Carolina Research Scholar, Peking University Exchange

Patents and Publications

C=Conference, W=Workshop, *=Equal Contribution

[C.1] Y. Li, Q. Gao* T. Zhao*, B. Wang*, H. Sun, **Haiyun Lyu4**, R. D. Hawkins, B. Vasconcelos, T. Golan, D. Luo, H. Deng(2025). **Core Knowledge Deficits in Multi-Modal Language Models**. In *Proceedings of the 42nd International Conference on Machine Learning (ICML), 2025*, PMLR 267:34379-34409. PMLR. 13-19 July 2025, Vancouver, Canada.

[W.1] D. Luo*, **Haiyun Lyu1***, et al. (2025). **Vision Language Models Know Law of Conservation Without Understanding More-or-Less**. In *ICLR 2025 BiAlign workshop*. 28 April 2025, Singapore.

[W.2] Q. Gao, Y. Li, **Haiyun Lyu3**, et al. (2025). **Vision Language Models See What You Want but not What You See**. In *ICLR 2025 BiAlign workshop*. Publisher. 28 April 2025, Singapore.

[W.3] H. Sun, Q. Gao, **Haiyun Lyu3**, et al. (2025). **Probing Mechanical Reasoning in Large Vision Language Models**. In *ICLR 2025 BiAlign workshop*. 28 April 2028, Singapore.