Lingyu Zhang

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EDUCATION

Duke University, Durham, NC
  Ph.D. in Electrical and Computer Engineering   Present
  Advised by Prof. Boyuan Chen

Columbia University, New York, NY
  M.S., Electrical Engineering   2023/02

Nanjing University, Nanjing, China
  B.E., Microelectronic Science and Engineering   2021/06

PUBLICATIONS

  Zhengran Ji, **Lingyu Zhang**, Paul Sajda, Boyuan Chen. Enabling Multi-Robot Collaboration from Single-Human Guidance, ICRA 2025. [**paper**, **project-page**, **video**]

  Lingyu Zhang, Zhengran Ji, Boyuan Chen. CREW: Facilitating Human-AI Teaming Research, TMLR 2024. [**paper**, **project-page**, **video**, **documentation**]

  Lingyu Zhang, Zhengran Ji, Nicholas R Waytowich, Boyuan Chen. GUIDE: Real-Time Human-Shaped Agents, Neurips 2024. [**paper**, **project-page**, **video**]

  Kung-Hsiang Huang, Mingyang Zhou, Hou Pong Chan, Yi R Fung, Zhenhailong Wang, **Lingyu Zhang**, Shih-Fu Chang, Heng Ji. Do LVLMs Understand Charts? Analyzing and Correcting Factual Errors in Chart Captioning, ACL Findings 2024. [**paper**]

  Lingyu Zhang*, Chengzhi Mao*, Junfeng Yang, Carl Vondrick. Robust Video Perception by Seeing Motion, Arxiv 2023. [**arxiv**, **project-page**]

  Chengzhi Mao, **Lingyu Zhang**, Abhishek Vaibhav Joshi, Junfeng Yang, Hao Wang, Carl Vondrick. Robust Perception through Equivariance, ICML 2023. [**arxiv**, **project-page**]

  Bangpeng Xiao, Shenyuan Ye, Xicai Li, Min Li, **Lingyu Zhang**, Yuanqing Wang. A Stereo Matching Method for Three-Dimensional Eye Localization of Autostereoscopic Display, ICIG 2021.

RESEARCH EXPERIENCE

Duke University, Pratt School of Engineering

Associate in Research: Human-AI Teaming
  Advisor: Prof. Boyuan Chen, Aug 2023 - Aug 2024
  Led research projects and built software infrastructures for Human-AI teaming.

Columbia University, Fu Foundation School of Engineering and Applied Science

Research Assistant: Multimodal Learning
  Advisor: Prof. Shih-Fu Chang & Dr. Mingyang Zhou, Feb 2023 - Aug 2023
  Contributed to projects including visual language data understanding and detecting manipulated multimodal data.

Research Assistant: Robust Machine Learning
  Advisor: Prof. Junfeng Yang & Prof. Carl Vondrick, Feb-Nov 2022

Designed a novel test-time adaptive adversarial defense for action recognition models using motion consistency. Conducted experiments on the performance of a novel adversarial purification method based on dense equivariant properties of neural networks.

Nanjing University, School of Electronic Science and Engineering

Undergraduate Thesis: Learned Multi-scale Image Compression
Advisor: Prof. Qiu Shen, Dec 2020 -June 2021
Implemented an end-to-end optimized image compression model based on an entropy-constrained variational autoencoder. Integrated a multi-scale encoder, achieving state of art compression performance. Investigated potential for latent space vision tasks without decoding.

HONORS/AWARDS

Renmin Scholarship, 2018 & 2019
FlyAI Excellent Algorithm Award (two tasks), 2021

LEADERSHIP/SERVICE

Graduate Electrical Engineering Council, Columbia
Career Chair, Jan 2022 - present

Engineering Graduate Student Council at Columbia Engineering
Lead Department Representative of EE, Jan 2022 - present

Nanjing University Summer Social Practice Project
Team Leader, June-Aug 2020

The Berkeley Project
Site Leader & Volunteer, Oct 2019

Nanjing University Hip-Hop Association
President, Aug 2018-June 2019

PROFESSIONAL TRAINING

Karlsruhe Institute of Technology, Virtual
Industry 4.0 Training for Young Talent, Sep-Oct 2020
Training covering Lean Production, Lean Line Design, Machine Learning, Data Analysis and Industry 4.0 of Production Planning and Control.

TECHNICAL SKILLS

Programming Language: Python, Matlab, C
Frameworks / Tools: PyTorch, OpenCV

LANGUAGE

GRE: 334 **(**V164 + Q170) + 4.0
TOEFL: 114