Junyao Hu (胡钧耀)

Email: hujunyao0329@gmail.com | Homepage: junyaohu.github.io | Google Scholar

EDUCATION

China University of Mining and Technology (Xuzhou, China)   Sep 2019 - Jun 2023

B.Eng. in Computer Science and Technology. Score: 88.78, GPA: 4.17/5.00, Rank: 10/129 (top 8%).   [Certificate]

Coursework: Python Programming Practice (100), Artificial Intelligence Control (98), Linear Algebra (97).   [Transcript]

PUBLICATIONS

Jia, G., Ma, Z., **Hu, J.**, Wang , W., Tian, K., & Zhou, B. (2025). *Anonymous review.*   (*submitted*)

Zhang, Z.*, **Hu, J.***, Cheng, W., Paudel, D., & Yang, J. (2024). ExtDM: Distribution extrapolation diffusion model for video prediction. In *CVPR* (pp. 19310-19320).   (CCF-A, co-first author) [Paper][中译版]

RESEARCH EXPERIENCE

Effective Video Prediction Method based on Diffusion Model   Dec 2022 - Jun 2024

CV Lab, Nankai University (Tianjin, China). Supervised by Jufeng Yang, Wentao Cheng.   [Code][Video]

- Conducted extensive research on prevalent video diffusion models and video prediction methods, enhanced the understanding of their advantages by delving into the analysis of pertinent literature.
- Innovated a novel approach that extrapolates video content from current frames towards future ones by modeling the distribution shift of motion cues, significantly reducing the computational load in diffusion denoising process.
- Completed comparative experiments on MCVD, LFDM, RaMViD, and ablation studies on different settings like prediction space type, attention mechanism, analysed experiment results, wrote the first draft.
- Led to a co-first author publication at CVPR 2024, served as a poster presenter at VALSE 2024.

Intelligent Vision Lawn Mower   Jun 2023 - Jun 2024

CV Lab, Nankai University (Tianjin, China). Supervised by Jufeng Yang.   [Code][Video]

- Executed comprehensive market research, assessed the strength and weakness of rival products, validated the robustness of Raspberry Pi and the practicality of AI algorithms through consulting and technical evaluations.
- Developed an effective obstacle avoidance algorithm, deployed the algorithm in Robot Operating System (ROS), enabling the lawn mower to integrate vision and ultrasonic sensing for pedestrian and obstacle detection and evasion.
- Crafted functional prototypes of the control app, liaised with the developer to convey technical details, executed field tests to assess the app's performance across various environments, provided constructive feedback for refinement.

Mine 3D Construction & Location Technology   Mar 2021 - Jun 2023

China University of Mining and Technology (Xuzhou, China). Supervised by Jiaqi Zhao, Yong Zhou.   [Report][Video]

- Designed movement control and communication software for the robot car by ROS and Qt Creator programming.
- Collected and labeled lane line segmentation data, engineered an effective lane detection algorithm based on U-Net.

HONORS & AWARDS

First AMC AI Film Festival - Finalist Prize   [Video][PDF] Mar 2025

Undergraduate National Scholarship - Ministry of Education   [PDF] Dec 2020

National College Student Intelligent Car Competition - National Third Prize   [PDF] Sep 2022

China Software Cup College Student Software Design Competition - National Third Prize   [PDF] Oct 2022

China Undergraduate Mathematical Modeling Competition - Provincial First Prize   [Post] Oct 2021

Excellent Undergraduate Graduate Scholarship - China University of Mining and Technology   [Post] Jun 2023

ACADEMIC SERVICE

Reviewer: CVPR'{24-25} (2024 Outstanding Reviewer, top 2%), ICCV'25, ACMMM'23, TMM'23

Invited Talk

- Freshman Education Lecture — Aug 2022
  Offered actionable advice to freshmen on thriving academically and socially in college on my experience. [Slide][Video]

Teaching Assistant

- High School Student Talent Plan — Jun 2024
  Guided students to learn Python programming, provided advice for their practical projects. [Code][Video]
- Discrete Mathematics — May 2021
  Strengthen students to grasp concepts through targeted review sessions enriched with example problems. [Slide][Video]

Open Source Repository

- Common Metrics on Video Quality (315+ Stars) — Jun 2024
  Integrated FVD, PSNR, SSIM and LPIPS metrics for assessing the quality of generated videos easily. [Code]
- Academic Project Page Template Vue (239+ Stars) — Jan 2024
  Developed a new project homepage template based on Vue, supporting one-click copy BibTex citation. [Code]

Community Contributor

- Reduct (减论) Start-up Team — Jan 2025 - Now
  Served as media partner, proposed a part of the product feature requirements. [Post]
- Vision AIGC WeChat Official Accout — Sep 2024 - Now
  Crafted articles on the development of visual AIGC and shared experiences in computer vision learning. [Post]
- SmartFlow (机智流) WeChat Official Accout — Jun 2024
  Authored articles for the account, delivering comprehensive analyses and interpretations of CVPR Best Paper. [Post]
- Datawhale — Sep 2020
  Served as promotion ambassador, promoted team learning activities and competitions to new learners. [Post]

WORKING EXPERIENCE

Vice Director of Video Production Department — Sep 2021 - Jun 2022

CUMT/CUMTCS New Media Center (Xuzhou, China). [Code][Video]

- Employed Python crawlers to detect sensitive content in website articles by utilizing Requests and Selenium.
- Supervised 2 short films, produced 30+ videos to promote the campus, with 250K+ likes.

MISCELLANEOUS

Languages: English: IELTS (TBD), CET-6 (540); Mandarin Chinese: Native.

Skills: Deep learning programming, data analysis, web development, digital media production.

Strength: Self-driven power (learned online courses like CS231n), leadership (served as class monitor for 10 years).

Hobbies: Self-media (reached 2.82M+ plays on Bilibili, sharing school life and scientific research experience), running (completed half marathon once), singing (performed during school's Gala as member of the choir).

Junyao Hu (胡钧耀)