

Junyao Hu (胡钧耀)

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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 (* indicates co-first author)

1. G. Jia*, **J. Hu***, X. Long, K. Zhang, K. Tian, N. Ding, B. Zhou, *Anonymous submission*, 2025. (*Submitted*)
2. G. Jia, Z. Ma, **J. Hu**, X. Long, W. Wang, K. Tian, B. Zhou, *Anonymous submission*, 2025. (*Under Review*)
3. Z. Zhang*, **J. Hu***, W. Cheng, D. Paudel, J. Yang, ExtDM: Distribution Extrapolation Diffusion Model for Video Prediction, *CVPR*, 2024. [[Paper](#)][[中译版](#)]

RESEARCH EXPERIENCE

AI Video Demo Making and VideoTuna Development Apr 2025 - Jun 2025
[Visual Intelligence Lab](#), HKUST (Hong Kong, China). Supervised by [Qifeng Chen](#), [Yingqing He](#).

- Collected real-person image and video data and completed the fine-tuning of FLUX.1-dev and CogVideoX1.5-5B-I2V. Effectively achieved image-to-video LoRA of wink action effect. Produced 2 cartoon character short videos.
- Develop a Gradio UI for music video making workflow from image LoRA fine-tuning to music beat detecting.
- Submitted related code to the open-source project [VideoTuna](#), adding feature for customized random seed.

Emotion-Guided Text-to-Image Generation Dec 2024 - May 2025
[TsinghuaC3I](#), Tsinghua University (Beijing, China). Supervised by [Bowen Zhou](#), [Guoli Jia](#).

- Constructed a dataset containing 80K emotion-guided revised prompts. Developed a multi-agent workflow which generates various emotional attributions, enhancing the interpretability and attribution diversity of emotion prompts.
- Proposed an improved emotional DPO loss based on original Diffusion-DPO loss, focusing on the preference between the images and the emotional types. Improved emotional consistency of generated images and specific emotions.
- Designed a multi-task learning fine-tuning strategy for large language model, while learning the tasks of visual subject extraction and emotion revision to cope with the difference of original prompts input by users.

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 and ablation experiments and wrote the first draft of the paper.

Intelligent Vision Lawn Mower Jun 2023 - Jun 2024
[CV Lab](#), Nankai University (Tianjin, China). Supervised by [Jufeng Yang](#). [[Code](#)][[Video](#)]

- Validated the robustness of Raspberry Pi and the practicality of AI algorithm through consulting and 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 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 (380+ Stars) Jun 2024
Integrated FVD, PSNR, SSIM and LPIPS metrics for assessing the quality of generated videos easily. [Code]
- Academic Project Page Template Vue (264+ Stars) Jan 2024
Developed a new project homepage template based on Vue, supporting one-click copy BibTex citation. [Code]

Community Contributor

- Reduct (减论) Jan 2025 - Now
Served as media partner, proposed a part of the product feature requirements. [Post]
- Vision AIGC WeChat Official Account 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 Account 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). [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-motivation (learned online courses like CS231n), leadership (served as class monitor for 10 years).

Hobbies: Self-media (2.83M+ plays on Bilibili), running (half marathon), singing (former member of CUMT choir).