Junhui Lin

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Education

Beijing Normal University *Beijing, China*
Bachelor of Engineering in Artificial Intelligence *Expected June, 2026*

- **GPA**: 91.04/100 | **Ranking**: 3/47 | **TOEFL**: 103 (R 29, L 27, S 23, W 24)
- **Relevant Courses:** Computer Vision, Natural Language Processing, Linear Algebra and Its Applications, Probability Theory and Stochastic Processes, Algorithm Design and Analysis, Data Structures, etc.

Honors

- China National Scholarship, 2025——*Top 1%*
- The Third Prize in the National Artificial Intelligence Innovation Competition, 2024——*Top 2%*
- The Second Prize in the National Undergraduate Mathematics Competition (China)——*Top 10%*
- The First-class Jingshi Scholarship of BNU, 2023, 2024——*Top 10%*

Publications

- Jiabin Luo (*), **Junhui Lin** (*), Zeyu Zhang (*), Biao Wu (*), Meng Fang, Ling Chen, Hao Tang (2025). "UniVid: The Open-Source Unified Video Model." *International Conference on Learning Representations (ICLR 2026).* *: equal contribution, under review. *https://www.arxiv.org/abs/2509.24200*
- Yihang Huang, Yuanfei Huang, **Junhui Lin**, Hua Huang (2025). "DeflareMamba: Hierarchical Vision Mamba for Contextually Consistent Lens Flare Removal." *ACM International Conference on Multimedia (ACMMM 2025). DOI: https://doi.org/10.1145/3746027.3755263*
- Yunxuan Xing, Zhuoyi Sha, **Junhui Lin**, Xingchen Zhou (2025). "The Impact of Secondary Task's Perceived Value on Individuals' Creativity in Divergent Thinking Tasks." *Applied Human Factors and Ergonomics International Conference (AHFE 2025). DOI: https://doi.org/10.54941/ahfe1006243*

Research Experiences

National Key Laboratory of Multimedia Information Processing, Peking University *Beijing, China*
Remote Assistant *Mar 2025 – Sep 2025*

- Proposed Temperature Modality Alignment mechanism for video generation, designed and implemented Pyramid Reflection pipeline (1,000+ lines) for video understanding, enabling efficient temporal reasoning via dynamic keyframe selection
- Conducted comprehensive ablation studies and comparative experiments across video understanding tasks, surpassed previous best methods by 1.0% and 3.3% respectively on video understanding benchmarks (MSVD-QA, ActivityNet-QA), achieving state-of-the-art performance
- Wrote complete paper and designed all figures as **co-first author** for submission to *ICLR 2026*; contributed to open-source release: *AIGeeksGroup/UniVid*

Intelligent Media Computing Lab, Beijing Normal University *Beijing, China*
Research Assistant *Nov 2024 – Apr 2025*

- Implemented Local-enhanced Selective Scan module and integrated it into hierarchical framework; conducted ablation studies and downstream experiments, contributing to state-of-the-art results that surpassed previous best methods by 2.4% in PSNR metric and achieved 0.899 SSIM metric on Flare7K benchmark
- Co-authored paper accepted by *ACM Multimedia 2025* as third author; Completed the LSSM technical write-up and designed all figures and diagrams for the research paper; contributed to open-source release: *BNU-ERC-ITEA/DeflareMamba*

Intelligent Media Computing Lab, Beijing Normal University *Beijing, China*

Research Assistant *May 2024 – Jul 2025*

- Conducted a structured survey of state-of-the-art video frame interpolation (VFI) and outlined a roadmap toward multi-frame arbitrary-time interpolation
- Implemented *VFIDiff* by formulating VFI as a sequence-generation problem; integrated optical flow theory to define flow-guided transition distributions that guide intermediate-frame synthesis
- Built the *VFIDiff* codebase with parallel execution; refactored and implemented 2000+ lines of core code; ran extensive experiments to validate its effectiveness. Contributed to open-source release: *kmp1001/VFIDiff*

Projects

Immersive Virtual Physics Laboratory Based on Semi-Physical Interaction (SPI), Beijing Normal University *Sep 2024 – May 2025*

- Defined and built SPI by pairing each virtual object with a real artifact and enabling bare-hand interaction with synchronized visuals, producing more natural haptics and higher immersion
- **Led** SPI platform development by installing sensors on 3D-printed artifacts and implementing Arduino programs that connected the physical artifact to the VR environment, and delivered four fully deployed experiments
- Conducted on-campus pilot studies in collaboration with BNU faculty, benchmarking SPI versus physical and virtual baselines; SPI showed higher immersion (+15%), greater participation (+9%), and better learning outcomes (+7%), informing iterative hardware and platform updates

EmoVision: An Intelligent Psychological Healing Platform Based on Multimodal Emotion Recognition, Baidu Inc. *May 2024 – Dec 2024*

- Fine-tuned the SKEP model for text emotion recognition (achieving 86% accuracy on the SMP2020 dataset), optimized the VGG19 model for image emotion analysis (achieving 80% accuracy on the iFLYTEK facial dataset), and completed multimodal integration via the Baidu PaddlePaddle framework
- Built an end-to-end guided painting system that turns a user's sketch and emotionally expressive text into targeted prompts via ERNIE Multimodal LLM, generates emotion-smoothing painting videos with ProcessPainter, and presents results in SugarBI with synced emotion analytics & visualization.
- Won the Third Prize in the China Artificial Intelligence Innovation Competition, and applied offline to over 400 primary and middle school students in Beijing, receiving positive feedback. Collaborated on open-source project that gained nearly 600 stars on GitHub *github.com/GabePersson/EmoVision*

Work Experience

Northeast Tiger and Leopard Biodiversity National Research Station *Beijing, China*
Computer Vision Technician, Paid Intern *Oct 2023 – Mar 2024*

- Engineered automated animal counting from camera-trap videos via stable segmentation and ID tracking; reduced manual tallying by over 100×
- Built a species-wise video classifier: calibrated detectors and trained an empty-video class from manually curated high-quality negatives, improving tiger/leopard discrimination and reaching 91% test accuracy

Software and Patent

- **Lin, Junhui**. 2025. *EmoVision*. China **Software Copyright Registration** No. 2025SR0816110, registered May 19, 2025.

Technical Skills

- **Programming Languages:** *Advanced* - Python, *Advanced* - C++, MATLAB, C, C#, SQL
- **Computing Environments:** *Advanced* - Windows, *Advanced* - Linux, Arduino
- **ML & Vision:** *Advanced* - PyTorch, *Advanced* - Diffusers, *Advanced* - YOLO, Hugging Face, OpenCV
- **Software & Tools:** Unity3D, Git, HuggingFace
- **Training & Inference:** CUDA/cuDNN, LoRA, SFT, PPO, DDP/FSDP