JASON JIXUAN HE

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EDUCATION

Cornell Tech (Cornell University), New York, NY — May 2025 (expected)
Master of Engineering in Computer Science
Relevant Coursework: Deep Learning | Applied Machine Learning | Machine Learning Engineering

Tsinghua University, Beijing, China — June 2024
Bachelor of Engineering in Software Engineering, Minor in Economics and Finance | GPA: 3.91/4.0
National Encouragement Scholarship | Southwest Student Scholarship | Merit Scholarship
Relevant Coursework: Machine Learning | Data Structure and Algorithm | Foundations of AI | Software Engineering
Honors / Awards: Second Prize and Best Rookie Award at the 38th and 40th Tsinghua University Challenge Cup

National University of Singapore, Kent Ridge, Singapore — Jan 2023 – May 2023
Exchange Student to School of Computing | GPA: 4.67/5.0

TECHNICAL SKILLS

Coding Languages:	Python, C++, C, HTML, JavaScript, CSS, C#, SQL, Go
Other Tools:	PyTorch, Pandas, Docker, Flask, Django, Node.js, Vue.js, React
Operating Systems:	macOS, Linux, Windows

PUBLICATIONS

Putting Any Object into Any Scene: Affordance-Aware Object Insertion via Mask-Aware Dual Diffusion — Submitted to AAAI 2025
***Jixuan He**, Wanhua Li, Ye Liu, Junsik Kim, Donglai Wei, Hanspeter Pfister*

R2-Tuning: Reversed Recurrent Tuning for Video Temporal Grounding — Accepted at ECCV 2024
*Ye Liu, **Jixuan He**, Wanhua Li, Junsik Kim, Donglai Wei, Hanspeter Pfister, Chang Wei Chen*

EXPERIENCE

Microsoft Research Asia, Student Intern - System Intelligence Group, Beijing, China — Mar 2024- July 2024
- Developed and deployed model structures to enhance the inference capabilities of large language models (LLMs) using Hugging Face
- Designed and executed algorithms for LLM pre-training data selection using in-context learning using Python and PyTorch

Harvard University, Student Intern – Visual Computing Group, Cambridge, US — May 2023- Sept 2023
- Developed and deployed a Stable Diffusion-based model for affordance-aware image composition
  - Utilized SAM & LAMA model to create the SAM-FB dataset, improving model generalization using Python and PyTorch
  - Led model construction and experiments, introducing attention-based position prediction and Mask-Aware Dual Diffusion to simultaneously reconstruct object appearance and placement
- Developed a parameter-efficient fine-tuning method to refine CLIP features for highlight detection and motion retrieval in long videos
  - Conducted literature review on CLIP-based video temporal grounding and developed the theoretical framework

ACADEMIC PROJECTS

Diffusion-prior Based Data Augmentation for Image Deblurring, (Python) — Spring 2024
Utilize Stable Video Diffusion generated data to synthesize pseudo blurry image to improve the generalization of Image Deblurring model
- Built data synthesis pipeline and perform experiment on 5 different datasets using 2 different image deblurring models
- Won **Second Prize at 40th Tsinghua University Challenge Cup**

Open-set Semi-supervised Object Detection, (Python) — Nov 2022 – Jan 2023
Apply a CLIP-based semi-supervised method to enhance open-set object detection
- Conducted a comprehensive review of vision-language pre-training models and semi-supervised learning literature
- Developed and optimized the project codebase

FooddL: a Kitchen Management WeChat Mini APP – Project Lead, (Python, JavaScript) — Fall 2021
Food storage management + personalize cookbook recommendation + health track one-stop APP
- Designed user-friendly UI and implement the frontend using WeChat mini program. Publish the APP to WeChat
- **Fourth place in Tsinghua University Software Innovation and Creativity Competition**

Ghost Speaker Based on Ultrasonic Phased Array on FPGA – Co Lead, (C, Verilog, Python) — Spring 2021
- Developed a Delay-Queue algorithm for phase control and beamforming. HPS-FPGA hybrid programming
- Secured the **Second Prize and Best Rookie Award at the 38th Tsinghua University Challenge Cup**

LEADERSHIP/VOLUNTEER SERVICES

Student Association of Science and Technology, Head of Technology, Tsinghua University, Beijing, China — Dec 2021-Dec 2022
- Established SSAST-ReadMe open-source platform for students to share study experiences and useful technologie. 40k+ visits

2022 Beijing Winter Olympics, Dignitary Assistant Volunteer, Beijing, China — Dec 2021-Mar 2022
- Assisted Vanja Udovičić, Minister of Youth and Sports of the Republic of Serbia with daily activities and meetings