Man Minh Ho *Research Scientist*

Salt Lake City, UT manminhho.cs@gmail.com Portfolio GitHub

ABOUT

Research Scientist specializing in generative AI (GANs, diffusion models), computer vision, image/video restoration, and computational pathology, with top-tier conference/journal publications, and hands-on experience deploying ML systems for face recognition and virtual try-on in production.

WORK EXPERIENCE

Lead Applied Scientist, *SpreeAI* 12/2024 – present
Remote, US

- Promoted to Lead Applied Scientist (Jan 2026). Led development of core virtual try-on modules (GANs/diffusion) optimized for smartphone users and deployed for Sergio Hudson .

Postdoctoral & Visiting Researcher, *University of Utah* 03/2023 – present
Salt Lake City, US

- Designed deep learning algorithms for cancer detection, grading, and prognosis prediction from histopathology images.
- Applied GANs and Latent Diffusion Models (LDMs) to restore frozen histology slides, boosting classification AUC from 81.99% to 94.64%.
- First- and co-authored 5+ publications in peer-reviewed venues; mentored and collaborated with PhD students on projects involving image segmentation, contrastive learning, and model explainability.

Research Associate, *VA Salt Lake City Health Care* 09/2024 – 12/2025
Salt Lake City, US

- Supported translational research in AI/ML for cancer prognosis and decision support in clinical settings.

Research Assistant, *Waseda University* 11/2021 – 03/2022
Tokyo, Japan

- Developed a novel training pipeline to mitigate image/video compression artifacts, improving robustness across varying quantization parameters.

Research Assistant, *Hosei University* 09/2018 – 03/2022
Tokyo, Japan

- Led deep learning research on image/video restoration. Managed GPU infrastructure and supported graduate-level teaching and mentoring.

Machine Learning Engineer, *EyeQ Tech* 09/2017 – 09/2018
Ho Chi Minh, Vietnam

- Engineered and deployed real-time face recognition and tracking systems. Promoted to team lead and awarded "Key Contributor" for leadership and delivery.

EDUCATION

Ph.D. in Science and Engineering, *Hosei University* 09/2020 – 03/2022
Thesis: Learned Image/Video Restoration. Tokyo, Japan

M.Eng. in Science and Engineering, *Hosei University* 09/2018 – 09/2020
Thesis: Self-Supervised Learning for Image/Video Compression (4.0/4.0) Tokyo, Japan

B.S. (Honors) in Computer Science, *University of Information Technology* 09/2013 – 09/2017
Thesis: Face Recognition in Video using optimization-based DICA (3:56/4.0) Ho Chi Minh, Vietnam

SELECTED PROJECTS

Frozen-to-FFPE Histopathology Restoration
- Developed Latent Diffusion Models with histopathology pretraining to restore frozen tissue images for diagnostic accuracy.
- Improved cancer classification AUC **from 81.99% to 94.64%**.

DISC: Self-Distilled LDM for Grading Prostate Cancer
- Proposed a self-distillation strategy for Latent Diffusion Models to improve the accuracy in mask-to-histopathology image translation.
- Augmented training with synthetic samples and achieved **97.35% AUC** on rare-class cancer grading.

Smartphone Photo Scanning and Restoration
- Created a semi-supervised pipeline and dataset for restoring smartphone-scanned images.
- Outperformed Google Photo Scan and Genius Scan [Demo]

Blending and Retouching Photos with Color Style Transfer
- Proposed a new supervised color style transfer technique based on low-level transformations. As a result, Lightroom Preset can be a well-retouched photo. [Demo]

SKILLS

Languages: Python, C++, Lua, HTML (basic), Matlab, SQL

ML/DL Frameworks: PyTorch, PyTorch Lightning, Hugging Face, Transformers, LoRA

Photo/Video Tools: Adobe Photoshop, Lightroom, Audacity

DevOps/Infra: Linux server setup & GPU cluster maintenance

Tools: Git, Nginx, Docker

Web & Backend: Flask, MongoDB, RabbitMQ

Vision Libraries: OpenCV, Kornia

AWARDS

Outstanding Reviewer, 03/2025
IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)

Hosei University Science and Engineering Departments 07/2020
Education/Research Promotion Fund Academic Achievement Award 2020

,
Hosei University
- Presented to a Master's student who achieves Top-1 for Research Performance and GPA in Science and Engineering Departments.

Best Paper Runner-up Award, 01/2020
The 26th International Conference on Multimedia Modeling (MMM)
- Top-2 Rate: 1.17%

Key Contributor , *EyeQ Tech Vietnam* 08/2018

- Awarded to an engineer who has the greatest contribution to the company as well as delivered projects.

The Five-Virtue Student , 12/2016

Vietnam National University - University of Information Technology

PUBLICATIONS

[1] Xiaoya Tang, Bodong Zhang, **Man M. Ho**, Beatrice Knudsen, Tolga Tasdizen. "DuoFormer: Leveraging Hierarchical Visual Representations by Local and Global Attention", Medical Imaging with Deep Learning (**MIDL**), 2025.

[2] **Man M. Ho**, Shikha Dubey, Yosep Chong, Beatrice S. Knudsen, and Tolga Tasdizen "F2FLDM: Latent Diffusion Models with Histopathology Pre-Trained Embeddings for Unpaired Frozen Section to FFPE Translation", IEEE/CVF Winter Conference on Applications of Computer Vision (**WACV**), 2025. [Webpage]

[3] **Man M. Ho**, Elham Ghelichkhan, Yosep Chong, Beatrice S. Knudsen, and Tolga Tasdizen "DISC: Latent Diffusion Models with Self-Distillation from Separated Conditions for Prostate Cancer Grading", IEEE International Symposium on Biomedical Imaging (**ISBI**), 2024. [Webpage]
***Extended version will be presented at **Synthetic Data for Computer Vision Workshop - CVPR**, 2024*.

[4] Alessandro Ferrero, Elham Ghelichkhan, Hamid Manoochehri, **Man M. Ho**, Daniel J. Albertson, Benjamin J. Brintz, Tolga Tasdizen, Ross T. Whitaker, and Beatrice S. Knudsen. "HistoEM: A Pathologist-Guided and Explainable Workflow Using Histogram Embedding for Gland Classification.", **Modern Pathology**, 2024.

[5] Bodong Zhang, Hamid Manoochehri, **Man M. Ho**, Fahimeh Fooladgar, Yosep Chong, Beatrice S. Knudsen, Deepika Sirohi, and Tolga Tasdizen. "CLASS-M: Adaptive stain separation-based contrastive learning with pseudo-labeling for histopathological image classification." arXiv preprint, 2023.

[6] Ryugo Morita, Zhiqiang Zhang, **Man M. Ho**, and Jinjia Zhou, "Interactive Image Manipulation with Complex Text Instructions", IEEE/CVF Winter Conference on Applications of Computer Vision (**WACV**), 2023.
"*A text-to-image translation application to specify affected regions, change attributes, activate operations such as enlarge, dwindle, and remove objects, and replace the background.*"

[7] **Man M. Ho**, Heming Sun, Zhiqiang Zhang, and Jinjia Zhou, "On Pre-chewing Compression Degradation for Learned Video Compression", IEEE International Conference on Visual Communications and Image Processing (**VCIP**), 2022. [Webpage]
"*Pre-chewing training data to enhance learning capability and learning data representation to deal with lack of data.*"

[8] Zhiqiang Zhang, Chen Fu, **Man M. Ho**, Jinjia Zhou, Ning Jiang, and Wenxin Yu, "Text-guided Image Manipulation based on Sentence-aware and Word-aware Network", IEEE International Conference on Multimedia & Expo (**ICME**) and AI for Content Creation Workshop (**AI4CC**) - **CVPR**, 2022.
"*Proposed a method to manipulate images by changing adjectives (object's characteristics).*"

[9] **Man M. Ho**, and Jinjia Zhou. "Deep Photo Scan: Semi-Supervised Learning for dealing with the real-world degradation in Smartphone Photo Scanning." IEEE/CVF Winter Conference on Applications of Computer Vision (**WACV**), pp. 1880-1889. 2022. [Webpage] [Poster] [Demo]
"A promising baseline for learned smartphone-scanned photo restoration."

[10] **Man M. Ho**, Lu Zhang, Alexander Raake, and Jinjia Zhou, "Semantic-driven Colorization", ACM SIGGRAPH European Conference on Visual Media Production (**CVMP**), pp. 1-10. 2021. [GitHub]
"Proposed to apply human-like action in coloring a black-and-white image for learned image colorization."

[11] **Man M. Ho**, Jinjia Zhou, and Gang He. "RR-DnCNN v2. 0: Enhanced Restoration-Reconstruction Deep Neural Network for Down-Sampling-Based Video Coding." IEEE Transactions on Image Processing (**TIP**) 30 (2021): 1702-1715. [GitHub]
"An extended version of the [RR-DnCNN]. Re-designed network architecture for better learning capability."

[12] **Man M. Ho**, and Jinjia Zhou, "Deep Preset: Blending and Retouching Photos with Color Style Transfer", IEEE/CVF Winter Conference on Applications of Computer Vision (**WACV**), pp. 2113-2121. 2021. [Webpage] [Demo]
"Proposed a novel color style. Lightroom Preset now can be any well-retouched photos."

[13] Huyen T. T. Bui, **Man M. Ho**, Xiao Peng, Jinjia Zhou, "Japanese Coins and Banknotes Recognition for Visually Impaired People", **VizWiz** Workshop, 2020. [Paper] [Workflow]
"Proposed to use depth estimation for coins/banknotes detection to avoid noise in the background and narrow the depth of interests in case users desire to detect coins/banknotes on a certain surface."

[14] **Man M. Ho**, Jinjia Zhou, Gang He, Muchen Li, and Lei Li. "SR-CL-DMC: P-frame coding with Super-Resolution, Color Learning, and Deep Motion Compensation." IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**) Workshops, pp. 124-125. 2020. [Paper]
"Adopted Super-Resolution, Colorization, and Frame Interpolation for P-frame compression."

[15][RR-DnCNN] **Man M. Ho**, Gang He, Zheng Wang, and Jinjia Zhou. "Down-Sampling Based Video Coding with Degradation-Aware Restoration-Reconstruction Deep Neural Network." International Conference on Multimedia Modeling (**MMM**), pp. 99-110. Springer, Cham, 2020. [GitHub]
"Investigated the effect of compression degradation for training. Proposed a new learned down-sampling-based video coding framework."

[16] **Man M. Ho**, Jinjia Zhou, and Yibo Fan. "Respecting low-level components of content with skip connections and semantic information in image style transfer." European Conference on Visual Media Production (**CVMP**), pp. 1-9. 2019. [Webpage]
"Conducted research on skip connections and semantic maps for image style transfer."

COMMUNITY SERVICES

Reviewer for British Machine Vision Conference (BMVC) 2020 - 2021
Reviewer for Computer Vision and Pattern Recognition (CVPR) and Workshops (CVPRW) 2020, 2025 - 2026
Reviewer for International Conference on Computer Vision (ICCV) 2021 (assistant)
Reviewer for Winter Conference on Applications of Computer Vision (WACV) from 2021 - 2025
Reviewer for European Conference on Computer Vision (ECCV) 2024
Reviewer for Springer NCAA, IEEE JETCAS
Advisory Board for ALS Vietnam (https://alsvietnam.org)

GRANTS AND SCHOLARSHIPS

Research Grant for Doctoral Courses, *Hosei University* 09/2020 – 03/2022

The 100th Year Anniversary Scholarship, *Hosei University* 07/2020

Japan Student Services Organization (JASSO) Scholarship, *JASSO* 10/2019

Daddy Longlegs Scholarship, *Hosei University* 09/2019

Monthly Scholarship for Students in Honors Programs, 09/2013 – 09/2017
Vietnam National University - University of Information Technology

CERTIFICATES

Human Research: Biomedical Research Investigators and Key Personnel
CITI Program, University of Utah, 2023.

JST Research Ethics Courses
Report Numbers: JS0000473934 (2018), AP0000575617 (2020).

Certificate of Completion for successfully completing the 320 hours Global Software Talent training course and examination on the specialty of Global .NET Developer
issued by FPT Software, 2016.

REFERENCES

Tuan Hue Thi , *Principal Applied Scientist,* Microsoft
huetuan1984@gmail.com

(Last Updated on 01/16/2026)