Peerawat Pannattee

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Career Objective

A passionate researcher with a strong foundation in **deep learning** and its applications in **computer vision**, and **time-serries analysis**. Currently pursuing a Ph.D. at Tokyo Metropolitan University, I specialize in the use of **artificial intelligence (AI)** to assess **user experience (UX)** in **virtual reality (VR)** environments. I am also interested in other AI topics such as **Large Language Models (LLM)** and **diffusion models**. Eager to apply my expertise to diverse fields, I aim to leverage AI to solve complex problems and unlock new possibilities in both research and real-world applications

Education

Ph.D. in Computer Science (Expected September 2025)
Tokyo Metropolitan University, Tokyo, Japan
Research Focus: Leveraging deep learning techniques to assess UX in VR environments, with an emphasis on multimodal behavioral cues.

M.E. in Electrical Engineering (2022)
King Mongkut's University of Technology Thonburi (KMUTT), Bangkok, Thailand
Research Focus: Application of deep learning for fingerspelling recognition in real-world continuous video settings with dynamic conditions.

B.E. in Electronics and Telecommunication (2019)
King Mongkut's University of Technology Thonburi (KMUTT), Bangkok, Thailand
Research Focus: Sentiment analysis of Thai restaurant reviews using machine learning and deep learning approaches.

Research Experience

Ph.D. Research Assistant, *Nishiuchi Lab., Tokyo Metropolitan University* *2022 - Present*

- Designed and implemented an automated framework for UX assessment in VR, utilizing deep learning and machine learning techniques.
- Investigated factors influencing UX in VR, with a focus on elements such as cybersickness, presence, and emotional states.
- Developed VR simulations to facilitate research experiments and collect behavioral data for analysis.

- Actively contributed to research discussions, co-authoring reports and papers for academic publication.

Research Assistant, *Deep Learning Research Lab., KMUTT* *2020 - 2022*

- Developed a state-of-the-art deep learning-based method for fingerspelling recognition in dynamic, real-world video settings, achieving significant recognition accuracy.
- Contributed to the preparation of reports and research publications.

Selected Publications

- *Pannattee, P., Fukuchi, Y., & Nishiuchi, N. (2024). *MUXAS-VR: Multi-dimensional User Experience Assessment System for Virtual Reality*. **Preprint**. [Access Preprint]
- *Pannattee, P., Shimada, S., Yem, V., & Nishiuchi, N. (2025). A deep learning framework for automatic assessment of presence in virtual reality using multimodal behavioral cues. Neural Computing and Applications, 1-21. https://doi.org/10.1007/s00521-024-10943-3
- *Pannattee, P., Kumwilaisak, W., Hansakunbuntheung, C., Thatphithakkul, N., & Kuo, C. C. J. (2024). *American Sign Language Fingerspelling Recognition in the Wild with Spatio-Temporal Feature Extraction and Multi-Task Learning*. *Expert Systems with Applications*, 243, 122901. https://doi.org/10.1016/j.eswa.2023.122901
- Shimada, S., *Pannattee, P., Ikei, Y., Nishiuchi, N., & Yem, V. (2023). *High-Frequency Cybersickness Prediction Using Deep Learning Techniques with Eye-Related Indices*. IEEE Access. https://doi.org/10.1109/ACCESS.2023.3312216
- Kumwilaisak, W., *Pannattee, P., Hansakunbuntheung, C., & Thatphithakkul, N. (2022). *American Sign Language Fingerspelling Recognition in the Wild with Iterative Language Model Construction*. APSIPA Transactions on Signal and Information Processing, 11(1). https://doi.org/10.1561/116.00000003

Awards

- **Best Paper Award**, 8th International Conference on Artificial Intelligence and Virtual Reality (AIVR), 2024
- **National Research Award**, awarded by the National Research Council of Thailand for contributions to the field of Thai sign language technology, 2024.
- **MEXT Scholarship**, Awarded by the Japanese Government for Ph.D. studies

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Skills

- **Programming Languages:** Python, C# (basic proficiency)

- **Tools and Frameworks:** PyTorch, Unity, OpenCV, OpenXR
- **Research Expertise:** Deep Learning, Machine Learning, Virtual Reality Development

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Languages

- **Thai:** Native proficiency
- **English:** Fluent
- **Japanese:** Elementary proficiency

References

Dr. Nishiuchi Nobuyuki
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Dr. Yosuke Fukuchi
Assistant Professor | Graduate School of Systems Design, Tokyo Metropolitan University
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