

Hoang Minh Thanh

Machine Learning Engineer

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With a strong foundation in machine learning and 3D motion animation, my work on DeepGesture showcases end-to-end expertise - from training transformer and diffusion models to deploying the GENE Leaderboard as a production-grade evaluation system. I believe I am well-suited for the Machine Learning Engineer position, contributing to **Motorica AI's** ongoing journey.

★ Keypoint

- **Passionate about motion synthesis and digital human:** Proposed the [DeepGesture](#) model, based on DiffuseStyleGesture and DeepPhase. Developed [GestureScore](#) for evaluation gesture generated.
Creator of [OpenHuman](#): openhuman-ai/renderengine, [GLSL Shader](#), [DeepGesture video render](#)
- **Expertise in diffusion models and sinusoidal function:** Strong grasp fourier transform, developed ML models for gesture generation, 3D human motion synthesis, and multimodal behavior modeling using transformer-based and diffusion architectures. Worked with the ZeroEGGS retarget dataset (Daniel Holden) on DeepPhase-Unity (AI4Animation - Sebastian Starke). Experienced with SMPL and BEAT2.
- **Proficient in 3D:** Skilled in Blender, Maya, Unity, Python and web technologies. Extensive experience in modeling, rigging, texturing, optimization, and 3D assets technical workflows, ZWrap (transfer topology), ZBrush (layer baking).
- **Experienced in Research environments:** one of organizer of [GENEA Leaderboard](#), creator of [HEMVIP v2](#). Experienced in technical discussions, writing documentation, and collaborating effectively with international teams.

🎓 Education

AS	University of Science - VNUHCM, Information Technology	2012 – 2015
BS	University of Science - VNUHCM, Computer Science	Sept. 2018 – Sept. 2020
	<ul style="list-style-type: none">• GPA: 3.3/4.0• Thesis: GCAT - Link Prediction in Knowledge Graph, [Report], [Code]	
MSc	University of Science - VNUHCM, Computer Science	Oct. 2021 – Dec. 2024
	<ul style="list-style-type: none">• GPA: 3.44/4.0• Thesis: OpenHuman: A conversational gesture synthesis system based on emotions and semantics, [Report], [Code]	

📖 Publications

DeepGesture: A conversational gesture synthesis system based on emotions and semantics [arXiv] , [Homepage]	Jul. 2025
Towards a GENE Leaderboard [arXiv]	Oct. 2024
Graph Collaborative Attention Network for Link Prediction in Knowledge Graphs [arXiv]	Oct. 2020

👛 Experience

Rakumo Inc, Software Engineer	Jul. 2019 – Apr. 2020
<ul style="list-style-type: none">• Developed a Django-based web application with integrated DocuSign.	

FPT Software, AWS Data Engineer

Oct. 2020 – Nov. 2021

- CI/CD pipeline, implemented and modified real-time and batch data pipelines on AWS using Kinesis, Lambda, S3, Glue, StepFunction, SNS, etc.
- Cox Automotive (onsite-offshore): Collaborated with international teams in Agile

VNG Corp, Software Engineer

Oct. 2021 – May 2024

ZDN Team (Zalo Content Delivery Network): caching service serve millions request

- Implement scheduled `ScheduledThreadPool` for monitoring stats execution.
- Built Ant admin dashboard with server visualization via amchart, p5.js in NextJS.

OpenHuman (openhuman.ai), Creator

May 2024 – Present

- Join GENE Research Team ([GENEA Leaderboard](#), [HEMVIP](#)): Designed and built a full-stack, production-ready leaderboard system to evaluate multiple AI gesture generation models, integrating user study workflows via Prolific.
- [DeepFACS](#): Create multiple blendshape compatible with ARKit 52 for blendshape, using ZWrap for transfer topology from 3DScanStore basemesh to facial expression. Digitized myself using Character Creator 4, [Universal Human](#).
- [DeepGesture](#) ([Demo](#)): Developed gesture generation AI system on Unity based on the [DeepPhase](#). Retarget skeleton animation using MotionBuilder.

</> Selected Projects

DeepGesture ([Code](#))deepgesture.github.io**Three.js realistic face for OpenHuman** ([Code](#))renderengine.pages.dev

- Loaded and scaled facial OBJ parts in Blender (eyeball, head, tongue, etc.); applied edited albedo, roughness, specular, clearcoat maps; configured dat.GUI, environment toggle, and tone mapping for realistic facial rendering

HairMimic - In progress hair simulation for OpenHuman ([Code](#))hairrich.github.io

- Generate hair from Maya XGen Grooming and load hair meshes, hair strand design.

MillionScope ([Code](#)) ChatGPT-Style with Chat SDK. Stream response result of Cloudflare Workers & Cloudflare AI.millionscope.com**Unity Game Pucca Runner** ([Code](#)) Pathfinding with a 2D hash map and Dijkstra's algorithm; runner moves toward the player and triggers collision on boundary breach[Pucca Runner](#)**Others projects:** [Morph target animation ReadyPlayerMe](#), [MetaPet \(metapet.vercel.app\)](#), cortexpod.com; pi-thagon.com, More on: github.com/hmthanh

🌟 Certifications

- [Critical Thinking Certification 2014](#), [Emotion Recognition Certification 2019](#), [Summer ML](#)
- Coursera: [Design Pattern](#), [TensorFlow Developer Professional](#) 2021
- **AWS: Solutions Architect - Associate**, [Machine Learning - Specialty](#); [Solution Architect](#) 2021