

Yi Hung Lim

✉ 22limyihu@gmail.com

🌐 <https://github.com/YHL04>

Education & Skills

2022 –	📖	B.S. Computer Science at Rensselaer Polytechnic Institute GPA: 3.78 President of RPI Badminton Club (Spring 2023 - Fall 2024, 6 semesters including summer)
Languages	📖	Strong reading, writing and speaking competencies for English and Mandarin Chinese.
Coding	📖	Python (6 years), Pytorch (5 years), Tensorflow (3 years), Java (4 years), C/C++ (3 years), SQL (1 year), Unity (1 year), C# (1 year), Django (1 year)
Courses	📖	Advanced Calculus, Probability Theory, Linear Algebra, Database Systems...
AI Proficiency	📖	Natural Language Processing (4 years), Computer Vision (2 years), Reinforcement Learning (5 years), Object Detection (1 years), Machine Learning (5 years), Transformers (4 years), Diffusion (2 years), Generative AI (4 years), Databases (1 years), QLearning (5 years), ResNet (1 years)...

Publications

2024	📖	Latent Diffusion for Reasoning (Presented at RPI CBIS Research Fair, Preprint) Paper This paper augments encoder-decoder language models with latent diffusion models to enhance language reasoning by diffusing the intermediate representations. (By reasoning over many diffusion forward steps, it can allocate more compute to hard reasoning tasks)
2023	📖	Uncertainty Estimation with Implicit Quantile Network (Preprint on arXiv) Paper Using Implicit Quantile Network from the reinforcement learning literature, this paper aims to repurpose it for uncertainty estimation in supervised learning settings. (It models the entire distribution of a target value)

Projects (Ordered by importance)

2023	📖	MEME Agent (4 months) https://github.com/YHL04/memeagent <ul style="list-style-type: none">• Beats humans in atari games with 200x less compute to learn to play itself• Reinforcement Learning Agent based on DQN• Achieves state-of-the-art in the 57 atari games benchmark• Is 200x more efficient than its predecessor Agent57
------	---	--

Projects (Ordered by importance) (continued)

- 2024
- 🔖 **Transformer Gallery** (1 month)
<https://github.com/AIResearchHub/transformergallery>
 - Implementations of the core algorithm behind ChatGPT
 - Includes Transformer, TransformerXL, Longformer, and Block Recurrent Transformer
 - Initialized the project and wrote 80% of the code
 - 🔖 **Recent AI Papers Website** (2 months)
<https://github.com/YHLo4/newswebsite>
<https://www.aipapernews.com>
 - Website that ranks the most recent AI papers within the past week
 - Rank papers according to author and citations to find high impact papers ASAP
 - Features include google login, real time like button, javascript charts, save papers, find paper categories etc...
 - 🔖 **Navy Battle** (2 months)
<https://github.com/YHLo4/navybattle>
 - 2D game made from Unity similar to Clash Royale
 - Contains three different assets to deploy to battlefield
 - WASD and 123 keys to move camera and deploy assets
 - Downloadable on Github releases tab
- 2023
- 🔖 **Agent 57** (2 month)
<https://github.com/YHLo4/agent57>
 - First algorithm to achieve superhuman level performance on all the 57 atari games through self play
 - Incorporates advancements such as distributed RL, RPC, CNN, PER, double DQN, dueling network, residual network, eligibility traces etc...
 - 🔖 **Diffusion Models for image generation** (1 month)
<https://github.com/YHLo4/ddpm>
 - DDPM can generate realistic images from scratch
 - It generates images by iteratively painting the image from random noise
 - Predecessor of many image generation technologies (e.g. stable diffusion)
- 2021
- 🔖 **YOLOv3 Inference**
<https://github.com/YHLo4/YOLO>
 - YOLOv3 was a cutting edge real time object detection algorithm in 2018
 - Rewrote the inference algorithm of YOLOv3
 - Uses CNN, numpy, residual networks, regression losses etc...