

# Tsung-Han (Hank) Lin

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## EDUCATION

**University of California, Los Angeles (UCLA)**  
**B.S., Mathematics of Computation**

Los Angeles, CA  
Sep 2021 - Mar 2024

## EXPERIENCE

**Machine Discovery and Social Network Mining Lab (MSLab), NTU**  
**Research Assistant**

Taipei, Taiwan  
Sep 2024 - Present

- Collaborating with NVIDIA Electronic Design Automation Research group to develop multimodal large language models for physical design, focusing on improving design accuracy and automation through image feature engineering.
- Optimized image processing and feature engineering for IR Drop prediction, developing an LLM-driven feature extraction and evaluation pipeline.

**Scalable Analytics Institute(ScAI), UCLA**  
**Research Assistant**

Los Angeles, CA  
Oct 2023 - June 2024

- Conducted literature reviews and data testing to establish benchmarks for social commonsense reasoning in Vision-Language Models (VLMs).
- Analyzed and evaluated GPT-4's responses to diverse scenarios using prompt engineering, identifying key moral and ethical implications to guide model refinement.
- Developed a video-centric multimodal dataset with image-to-text and segmentation models to extract transcript and facial expression from video sources.

**NeuroLeap Corp.**  
**Machine Learning Engineer Intern**

San Jose, CA  
June 2023 - Sep 2023

- Fine-tuned a YOLOv5 model with 92% real-time detection accuracy using custom datasets.
- Collected and curated a dataset of over 2000 custom images, annotating each to enhance model training and accuracy.
- Designed and implemented a multi-object tracking system with MediaPipe, utilizing gesture recognition for distance measurements in interactive applications.

## PUBLICATION

[1] Zongyu Lin et al., “VISUAL-ALPHASOCIAL: Benchmark and Self-Reflective Chain-of-Thought Generation for Visual Social Commonsense Reasoning,”(**Findings of EMNLP 2024**)

## SELECTED PROJECTS

### ▪ JokeGPT

Pre-trained and fine-tuned a 16M-parameter transformer model from scratch, building the training pipeline, handling data preprocessing, and optimizing model architecture and training efficiency.

### Dreambooth Stable Diffusion Fine-Tuning

- Fine-tuned a Stable Diffusion XL model using LoRA weights for personalized image generation, implemented Dreambooth incorporating a refiner model to enhance output quality and resolution.

## SKILLS

- **Languages:** Python, C++, Matlab, MySQL
- **Frameworks:** PyTorch, Scikit-Learn, TensorFlow
- **Technologies:** PostgreSQL, MongoDB, Docker, AWS, Shell Scripting, Linux