

Ming-Chang Chiu

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EDUCATION

University of Southern California (USC)

Los Angeles, CA

Ph.D. in Computer Science

Aug 2018 – Dec 2019, Aug 2020 – May 2025 (Exp.)

- Advisor: Prof. Xuezhe Ma
- Interests: Multimodal Large Language Model, Reliable GenAI, AI4Science
- Invited to pitch at MiraclePlus for a \$1M funding

National Tsing Hua University (NTHU)

Hsinchu, Taiwan

B.S. in Computer Science & Electrical Engineering

Sep 2011 – Jun 2015

- Honorary Member of Phi Tau Phi Scholastic Society (**top 1%**)

Tsinghua University

Beijing, China

Summer Exchange Student in Computer Science

Summer 2012

SELECTED

PUBLICATIONS

- AIDE: Agentically Improve Visual Language Model with Domain Experts, **M.-C. Chiu**, F. Liu, K. Sapra, A. Tao, Y. Jacob, X. Ma, Z. Yu, G. Liu, [arXiv](#), In *ICLR Self-Improving Foundation Model. Sub. to ACL25*.
- VideoPoet: A Large Language Model for Zero-Shot Video Generation, [arXiv](#), [Blog](#), In *ICML (Best Paper) 2024*
- MegaCoin: Medium Granularity Color Annotated Images Improve Instruction Tuning for Vision-Language Models. **M.-C. Chiu**, S. Wen, P.-Y. Chen, X. Ma, [arXiv](#) Sub. to ICCV25.
- ColorSense: A Comparative Study on Color Vision of Machine Visual Recognition. **M.-C. Chiu**, Y. Wang, D.E. Kim, P.-Y. Chen, X. Ma. In *Secure & Trustworthy ML 2025*. [arXiv](#)
- Behavioral Bias of Vision-Language Models: A Behavioral Finance View. Y. Xiao*, Y. Lin, **M.-C. Chiu***, In *ICML LLMs and Cognition 2024*. [arXiv](#)
- DDI-CoCo: Understanding the Effect of Color Contrast in Machine-Assisted Skin Disease Detection. **M.-C. Chiu***, Y. Wang*, J.-J. Kuo, P.-Y. Chen, In *ICASSP 2024*. [arXiv](#) Long Ver. Submitted to *Nature Machine Intelligence*.
- Better May Not Be Fairer: A Study on Subgroup Discrepancy in Image Classification **M.-C. Chiu**, P.-Y. Chen, X. Ma. In *ICCV 2023*. [arXiv](#)

WORK

EXPERIENCES

VIDIA

Santa Clara, CA

Research Intern [Mentors: Andrew Tao, Karan Sapra, Guilin Liu]

May 2024 – Dec 2024

- Enhanced reasoning of GPT4o-like model with an agentic synthetic post-training pipeline for supervised and reinforcement finetuning from scratch: improved MMMU, SciQA, MME, etc. benchmarks by at least 1%

Google Research / DeepMind

Mountain View / Los Angeles, CA

Student Researcher [Host: Rachel Hornung, Marco Andreetto, Benoit Corda]

Oct 2023 –

Dec 2023

- Fine-tuned and designed benchmark for text-to-video/text-to-image generative models (VideoPoet & Phenaki)
- Designed out-of-distribution detection safety measures for large vision-language models

Lawrence Livermore National Lab

Livermore, CA

Research Intern [Host: Bhavya Kailkhura, Pin-Yu Chen]

May 2023 – Aug 2023

- Designed instruction-tuning methods to defend against jailbreaking attacks on Vision-Language Models (VLM) like GPT-4
- Evaluated new AirSim-generated context-aware benchmarks for zero-shot domain generalization of multi-modal models like CLIP, GLIP, GroundingDINO, etc.

Lilt, Inc.

San Francisco, CA

Data Science Intern [Host: Geza Kovacs]

May 2020 – Sep 2020

- Initiated and developed a successful defense mechanism against noisy online inputs for machine translation (NMT); 5 BLEU better than the baseline

RELATED COURSEWORK	Online Optimization, ML Theory, Large Scale Optimization for Machine Learning, Convex Optimization, Advanced Representation Learning for NLP, Knowledge Extraction and Reasoning, Affective Computing, Corporate Finance, Strategy & Competitive Dynamics	
SKILLS	Languages: Python, OCaml, Java, HTML/CSS, PHP, SQL, JavaScript Technologies & API: PyTorch, Pandas, Docker, Scikit Learn, Hadoop, Spark Transferrable: Strategic Thinking, Collaboration, Public Speaking	
OTHER ACTIVITIES	<ul style="list-style-type: none"> • President of Taiwanese PhD Student Association • California Collegiate Salsa Competition Champion 2018 • Vice President of String Ensemble 	
INVITED TALK	<ul style="list-style-type: none"> • CSRMP gStudent Experience Panel, Google’s CS Research Mentorship Program, November 2023 • Google Research Perception Fairness Internal Talk, November 2023 	
ADDITIONAL PUBLICATIONS	<ul style="list-style-type: none"> • On Human Visual Contrast Sensitivity and Machine Vision Robustness: A Comparative Study. M.-C. Chiu, Y. Wang, D.E. Kim, P.-Y. Chen, X. Ma. arXiv • Robust Representation Learning for Group Shifts and Adversarial Examples. M.-C. Chiu, X. Ma. In <i>NeurIPS 2022 ML Safety</i>. Link • Screenplay Quality Assessment: Can We Predict Who Gets Nominated? M.-C. Chiu, Tiantian Feng, Xiang Ren, Shrikanth Narayanan. In <i>ACL NUSE 2020</i>. • Automated Empathy Detection for Oncology Encounters. Z. Chen, J. Gibson, M.-C. Chiu, Q. Hu, T. K. Knight, D. Meeker, J. A. Tulskey, K. I. Pollak and S. Narayanan. In <i>Healthcare Information (ICHI) 2020</i>. • A system for the 2019 Sentiment, Emotion and Cognitive State Task of DARPA’s LORELEI project. V. Martinez, A. Ramakrishna, M.-C. Chiu, K. Singla, and S. Narayanan. In <i>Affective Computing & Intelligent Interaction (ACII 2019 Oral)</i> 	
HONORS & AWARDS	2023 Datumo AI Dataset Sponsorship Program (\$50k)	2023
	USC WiSE Travel Grant * 2	2022, 2023
	Kaggle Silver Medal (top 4% out of 5,332 teams), Porto Seguro’s Safe Driver Prediction	2017
	Celebrating the Viterbi Algorithm Through Art	2017
	Honorary Member of Phi Tau Phi Scholastic Society	2015
	Excellent Study Group Award, NTHU	2015
	National Tsing Hua University International Exchange Scholarship	2014