

Ching Lam CHOI

ML/AI research in robustness, causality, epistemology.

@ chinglam@mit.edu

Website

LinkedIn

Scholar

GitHub

EDUCATION

Ph.D. in Computer Science [Massachusetts Institute of Technology](#)

2024 – 2029

Cambridge, USA

- Supervisors: Phillip Isola, Antonio Torralba & Stefanie Jegelka.
- EECS Ph.D. student at CSAIL on robustness, causality, epistemology.

B.Eng. in Computer Science (AIST) [Chinese University of Hong Kong](#)

2020 – 2024

Hong Kong

- Mentors: Hongsheng Li & Anthony Man-Cho So.
- Major GPA: 3.676 / 4.000 (First Honours: expected).

RESEARCH

Publications

- C. L. Choi, A. Duplessis, and S. Belongie, “Unlearning-based neural interpretations,” in *ICLR (oral)*, 2025. [Online]. Available: <https://openreview.net/forum?id=PBjCTeDL6o>.
- R. Liu, Y. Ge, C. L. Choi, X. Wang, and H. Li, “Divco: Diverse conditional image synthesis via contrastive generative adversarial network,” in *CVPR*, 2021, pp. 16 377–16 386.

Pre-Prints

- C. L. Choi and F. Farnia, “Generalization checks for saliency maps,” 2025.
- C. L. Choi, V. Subramaniam, A. Charusaie, A. Torralba, P. Isola, and S. Jegelka, “Fairness aware reward optimization,” 2025.
- C. L. Choi and F. Farnia, “Universal adversarial directions,” *arXiv preprint arXiv:2210.15997*, 2022.
- Y. Ge, X. Zhang, C. L. Choi, K. C. Cheung, P. Zhao, F. Zhu, et al., “Self-distillation with batch knowledge ensembling improves imagenet classification,” *arXiv preprint arXiv:2104.13298*, 2021.

EXPERIENCE

Research Visitor

[Technical University Munich](#)

Jan – Feb, Jun – Aug 2025

Munich, Germany

- Hosted by Stefanie Jegelka at TUM; supported by the Munich Center for Machine Learning (MCML).
- Algorithmically fair reward models for robust language model finetuning.

Research Intern

[Pioneer Centre for Artificial Intelligence](#)

Feb – Jun 2024

Copenhagen, Denmark

- Collaborator: Serge Belongie.
- Fair, robust, multi-calibrated knowledge distillation through granularity.

Research Intern

[Mila—Québec Artificial Intelligence Institute](#)

May – Aug 2023

Montréal, Canada

- Collaborators: Yann Dauphin & Aaron Courville.
- Quantization aware initialization for robust, quantizable models.

INTERESTS

Probing the *robustness*, *causal reasoning* and *epistemic capabilities* of ML systems.

- Robustness:** Sustainable, privacy-preserving scaling laws for models with *synthetic data*.
- Causal reasoning:** Safety and symbolical logic guarantees for AI blackboxes.
- Epistemology:** Testing limits of AI in expressivity, compatibility and generation capabilities through *complexity theory*.

INITIATIVES

- Co-organised the **Causality and Large Models** workshop at NeurIPS '24, pioneering investigation into rigorous causal reasoning and inference abilities of large vision-language models.
- Co-organised the **New in ML** workshop at NeurIPS '23 & '24, with talks and panels on AI ethics, academic writing, career planning in industry/academia.
- Co-organised the **CoSubmitting Summer** workshop at ICLR '22: funded & mentored 55 research projects from underprivileged minorities.
- Co-organised the **Undergraduates in Computer Vision Social** at ICCV '21; shared insights on breaking into research in academia / industry.
- Reviewer:** CVPR '23, '24, ICCV '23, NeurIPS '23, '24, ICLR '24, '25, ICML '24, '25, ECCV '24*, ACCV '24, AAAI '25, AISTATS '25 (* indicates outstanding).

REFEREES

Prof. [Stefanie Jegelka](#)

@ Humboldt Professor, TU Munich

✉ stefje@csail.mit.edu

Prof. [Phillip Isola](#)

@ Associate Professor, MIT

✉ phillipi@mit.edu

Prof. [Antonio Torralba](#)

@ Professor & AI+D Faculty Head, MIT

✉ torralba@mit.edu

Prof. [Aaron Courville](#)

@ Professor & CIFAR CAI Chair, MILA

✉ courvila@iro.umontreal.ca

Dr. [Wieland Brendel](#)

Research Intern [Max Planck Institute for Intelligent Systems](#)

📅 Jan – Apr 2023; Sep '23 – Jan '24 📍 Tübingen, Germany

- Collaborators: **Wieland Brendel**.
- Sparse adversarial attacks/training for preserving clean accuracy, reducing the generalization error and improving computational efficiency.

Research Intern (remote) [Stanford AI Lab](#)

📅 Jan – Jun 2022 📍 Stanford University, USA

- Collaborator: **Jiajun Wu**.
- Scene understanding via image intrinsics & Neural Radiance Fields (NeRFs).

Research Intern [NVIDIA AI Tech Center](#)

📅 Sep 2020 – Oct 2021 📍 NVIDIA, HK

- Worked with **Ming-Yu Liu**, **Arun Mallya**, **Ting-Chun Wang** on improving Face Vid2Vid for audio-driven video synthesis.
- Worked with **Charles Cheung**, **Simon See** on explainable GANs.

Research Assistant [Multimedia Laboratory \(MMLab\)](#)

📅 Aug 2019 – Aug 2022 📍 CUHK, HK

- Mentored by **Hongsheng Li** on self-supervised learning and generative models; with **Farzan Farnia** on adversarial training and generalisation.

TALKS

Multimodal Symmetries [Torralba Lab](#)

📅 28.05.2025 📍 MIT (Antonio Torralba)

Reward Modelling & Causality [Isola Lab](#)

📅 02.04.2025 📍 MIT (Phillip Isola)

Fairness Aware Reward Optimization [Women in Data Science](#)

📅 07.03.2025 📍 Microsoft Cambridge (WiDS 2025 poster session)

A Causality-inspired Critique of LLMs [Causal Learning and AI Lab](#)

📅 04.02.2025 📍 ISTA (Francesco Locatello)

Fairness Symmetries for Preference Optimisation [Bunne Lab](#)

📅 16.01.2025 📍 EPFL (Charlotte Bunne)

WiML Spotlight [Bridging the Future](#)

📅 12.12.2024 📍 NeurIPS 2024 (WiML)

Query Complexity for ML [Jegelka Lab](#)

📅 18.11.2024 📍 MIT (Stefanie Jegelka)

Synthetic Data for Property Testing [Isola Lab](#)

📅 06.11.2024 📍 MIT (Phillip Isola)

(Un)learning to Explain [Krueger AI Safety Lab](#)

📅 27.05.2024 📍 UCambridge (David Krueger)

Robust Scaling: Trustworthy Data [CleverHans Lab](#)

📅 22.03.2024 📍 Vector Institute, UToronto (Nicolas Papernot)

Robustness Transfer in Distillation [Brendel & Bethge Labs](#)

📅 08.05.2023 📍 Max Planck Tübingen (MPI-IS) (Wieland Brendel)

Federated learning and the Lottery Ticket Hypothesis [ML Collective](#)

📅 16.02.2022 📍 Lab meeting, ML Collective (Rosanne Liu)

@ ELLIS Group Leader, Max Planck (MPI-IS)

✉ wieland.brendel@tuebingen.mpg.de

Prof. [Serge Belongie](#)

@ Director, Pioneer Centre for AI; Professor at DIKU, University of Copenhagen

✉ s.belongie@di.ku.dk

Prof. [Hongsheng Li](#)

@ Associate Professor, EE, CUHK

✉ hsli@ee.cuhk.edu.hk

FELLOWSHIPS & GRANTS

- Heidelberg Laureate Forum Selected as 1 of 200 young scientists to attend HLF 2025.
- MIT The Hong Kong Jockey Club Graduate Scholarship at MIT 2024 (3 years, fully-funded)
- MIT MIT EECS Sunlin (1966) and Priscilla Chou Fellowship (offered)
- EPFL EPFL EDIC Fellowship (offered)
- HKJC Hong Kong Jockey Club Undergraduate Scholarships 2021/22
- HKSAR Talent Development Scholarship 2022/23
- HKEX Foundation Scholarship for Biotechnology and Innovation 2019/2020
- HSBC Greater Bay Area (Hong Kong) Scholarship 2020/2021
- TCYH-CLY Millennium Trust Research grant by the Cheng YH and Chan LY Millennium Trust
- Morningside CUHK Morningside College Conference Grant 2023-24, 2020-21
- Morningside CUHK PI Scholarship 2021-22

SELECT AWARDS

- Google Code-In 2019: Runner-Up (Julia)
- Sensetime 2nd International Artificial Intelligence Fair: 1st Prize
- iCan / 5th International Invention Innovation Competition in Canada: Best 10 Women Inventors + Special Award + Gold Medal
- IMMC / 5th International Mathematical Modelling Challenge: First-class Honours (International Round)
- HK Computer Society Outstanding ICT Rising Star Award 2020
- CUHK Outstanding Students Award '22, '21
- Morningside CUHK Master's List '23, '22, '21
- Engineering CUHK Dean's List '23, '21

SKILLS

English

Cantonese

Mandarin

AI

Computer Vision

Machine Learning

Python

PyTorch

Julia