Ching Lam CHOI

Year 3, AI Engineering, CUHK (Major GPA: 3.807/4.000)

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RESEARCH

Publications

- R. Liu, Y. Ge, **C. L. Choi**, X. Wang, and H. Li, "Divco: Diverse conditional image synthesis via contrastive generative adversarial network," in *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021, pp. 16 377–16 386.

Pre-Prints

- **C. L. Choi** and F. Farnia, "Generalization of interpretable deep learning requires more data," 2022.
- **C. L. Choi** and F. Farnia, "Universal adversarial directions," *arXiv preprint arXiv:2210.15997*, 2022.
- Y. Ge, X. Zhang, **C. L. Choi**, *et al.*, "Self-distillation with batch knowledge ensembling improves imagenet classification," *arXiv preprint arXiv:2104.13298*, 2021.

EXPERIENCE

Research Intern (upcoming) Mila—Quebec Artificial Intelligence Institute

May – August 2023 | Montreal, Canada

- Collaborators: **Yann Dauphin & Aaron Courville**
- The (tentative) topic will either be on sparsity & the Lottery Ticket Hypothesis, or on adversarial attacks and sharpness.

Research Intern Max Planck Institute for Intelligent Systems

Jan – Apr 2023 | Tübingen, Germany

- Collaborators: **Wieland Brendel & Yash Sharma**
- Worked on sparse adversarial attacks/training for preserving clean accuracy, reducing the adversarial generalization error and improving computational efficiency.

Research Intern (remote) Stanford AI Lab

Jan – Jun 2022 | Stanford University, USA

- Worked with **Jiajun Wu** on scene understanding via image intrinsics and 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 Student Multimedia Laboratory (MMLab)

Aug 2019 – Aug 2022 | CUHK, HK

- Mentored by **Hongsheng Li**; worked on self-supervised Learning, Generative models, fine-grained video understanding.

Research Assistant Theoretical Machine Learning Lab

Jan 2022 – Present | CUHK, HK

- Collaborating with **Farzan Farnia**; researching adversarial training and robustness; understanding generalisation; MixUp.

Research Intern CUHK UG Summer Research

Jun – Aug 2021 | CUHK, HK

- Worked with **Anthony So** on deep metric-learning for improving DNN generalisation and robustness.

ASPIRATIONS

Research Interests. To reconcile the different notions of robustness in CV & ML, to answer the question of "whether deep learning methods are generalizable learners".

Why? Robustness under noisy settings *(e.g. label noise, distributional shifts, adversarial noise)* are realistic scenarios that connect theory to practice, shedding light on when our DL systems succeed and fail.

5-Year Plan. Immediately pursue a PhD on CV & ML.

INITIATIVES

- Co-organised the **CoSubmitting Summer Workshop** at ICLR 2022; CSS funded & mentored 55 research proposals from underprivileged minorities
- Co-organised the **Undergraduates in Computer Vision Social** at ICCV 2021; shared insights on breaking into research in academia / industry
- **Reviewer** for CVPR 2023, ICCV 2023, NeurIPS 2023.

REFEREES

Prof. Hongsheng Li
Associate Professor, EE, CUHK
hsli@ee.cuhk.edu.hk

Prof. Farzan Farnia
Assistant Professor, CSE, CUHK
farnia@cse.cuhk.edu.hk

Prof. Anthony Man-Cho So
Professor, SEEM, CUHK
manchoso@se.cuhk.edu.hk

SELECT AWARDS

Google Code-In 2019: **Runner-Up** |
2nd International Artificial Intelligence Fair (Sensetime): **1st Prize** |
5th International Invention Innovation Competition in Canada: **Best 10 Women Inventors + Special Award + Gold Medal** |
5th International Mathematical Modelling Challenge (IMMC): **1st Class Honours**

SKILLS

English | Cantonese | Mandarin
AI | Computer Vision | Machine Learning
Python | PyTorch | Julia