

## EDUCATION

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### The Ohio State University

Ohio, USA

Ph.D. in Department of Computer Science and Engineering (unfinished), GPA: 3.90/4.00

Aug. 2021–Dec. 2023

- **Advisor:** Dr. Wei-Lun Chao
- **Awards:** University Fellowship in 2021
- Completed 29 credit hours of courses, including Artificial Intelligence, Data Mining, and Real-time Rendering.
- Published 4 research papers at top AI/ML/CV conferences (ICLR, AAAI, CVPR, NeurIPS).

### National Taiwan University

Taipei, Taiwan

M.Sc. in Department of Computer Science and Information Engineering, GPA: 3.97/4.30

Sep. 2015–Jan. 2018

- **Advisor:** Dr. Jane Yung-jen Hsu

### National Taiwan University

Taipei, Taiwan

B.Sc. in Department of Computer Science and Information Engineering, GPA: 4.02/4.30

Sep. 2011–Jun. 2015

- **Awards:** The Presidential Award (5%) in Fall 2012 and Fall 2013

## EXPERIENCE

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### Graduate Research Assistant

Ohio, USA

Department of Computer Science and Engineering, The Ohio State University

Aug. 2021–Dec. 2023

- Holistic Transfer — A More Practical Adaptation Setting with Partial Target Data ([NeurIPS23](#))
- Visual Query Tuning — Parameter and Memory Efficient Fine-tuning for Vision Transformers ([CVPR23](#))
- Synthetic (Fractal) Data Generation and Pre-training ([AAAI23](#), [ICLR23](#))

### Research Assistant

Taipei, Taiwan

AINTU Center, National Taiwan University

Jan. 2021–Aug. 2021

- Binary Hash Code Learning for Efficient Image Retrieval ([TAI21](#), [TNNLS22](#))
- Continual Learning for Defect Detection ([INDIN21](#))

### Research Assistant

Taipei Taiwan

Institute of Information Science, Academia Sinica

Apr. 2019–Dec. 2020

- Continual Learning ([NeurIPS19](#)), Network Compression ([IJCNN20](#))

## PUBLICATIONS

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\* indicates equal contributions

### Conferences

- [C10] H.-Y. Chen, **C.-H. Tu**, Z. Li, H.-W. Shen, and W.-L. Chao, "On the importance and applicability of pre-training for federated learning," in *International Conference on Learning Representations (ICLR)*, 2023.
- [C9] **C.-H. Tu**<sup>\*</sup>, H.-Y. Chen<sup>\*</sup>, D. Carlyn, and W.-L. Chao, "Learning fractals by gradient descent," in *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*, 2023.
- [C8] **C.-H. Tu**<sup>\*</sup>, H.-Y. Chen<sup>\*</sup>, Z. Mai, J. Zhong, V. Pahuja, T. Berger-Wolf, S. Gao, C. Stewart, Y. Su, and W.-L. Chao, "Holistic transfer: Towards non-disruptive fine-tuning with partial target data," in *Advances in Neural Information Processing Systems (NeurIPS)*, 2023.
- [C7] **C.-H. Tu**<sup>\*</sup>, Z. Mai<sup>\*</sup>, and W.-L. Chao, "Visual query tuning: Towards effective usage of intermediate representations for parameter and memory efficient transfer learning," in *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023, pp. 7725–7735.

- [C6] C.-H. Chen, **C.-H. Tu**, J.-D. Li, and C.-S. Chen, "Defect detection using deep lifelong learning," in *2021 IEEE 19th International Conference on Industrial Informatics (INDIN)*, 2021, pp. 1–6.
- [C5] **C.-H. Tu**, J.-H. Lee, Y.-M. Chan, and C.-S. Chen, "Pruning depthwise separable convolutions for mobilenet compression," in *IEEE International Joint Conference on Neural Networks (IJCNN)*, 2020, pp. 1–8.
- [C4] **C.-H. Tu**, C.-E. Wu, and C.-S. Chen, "Extending conditional convolution structures for enhancing multitasking continual learning," in *Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC)*, 2020, pp. 1605–1610.
- [C3] S. C.-Y. Hung, **C.-H. Tu**, C.-E. Wu, C.-H. Chen, Y.-M. Chan, and C.-S. Chen, "Compacting, picking and growing for unforgetting continual learning," in *Advances in Neural Information Processing Systems (NeurIPS)*, 2019, pp. 13 669–13 679.
- [C2] **C.-H. Tu**, C.-Y. Yang, and J. Y.-j. Hsu, "Idennet: Identity-aware facial action unit detection," in *IEEE International Conference on Automatic Face & Gesture Recognition (FG)*, 2019, pp. 1–8.
- [C1] H.-F. Yang, **C.-H. Tu**, and C.-S. Chen, "Adaptive labeling for hash code learning via neural networks," in *IEEE International Conference on Image Processing (ICIP)*, 2019, pp. 2244–2248.

## Journals

- [J3] H.-F. Yang, **C.-H. Tu**, and C.-S. Chen, "Learning binary hash codes based on adaptable label representations," *IEEE Transactions on Neural Networks and Learning Systems (TNNLS)*, vol. 33, no. 11, pp. 6961–6975, 2022.
- [J2] **C.-H. Tu**, H.-F. Yang, S.-M. Yang, M.-C. Yeh, and C.-S. Chen, "Semantichash: Hash coding via semantics-guided label prototype learning," *IEEE Transactions on Artificial Intelligence (TAI)*, vol. 2, no. 1, pp. 42–57, 2021.
- [J1] H.-F. Yang, T.-Y. Chen, **C.-H. Tu**, and C.-S. Chen, "Equivalent scanning network of unpadded cnns," *IEEE Signal Processing Letters*, vol. 25, no. 10, pp. 1590–1594, 2018.

## INVITED TALKS

- **Compacting, Picking and Growing for Unforgetting Continual Learning** Dec. 2020  
*AI Forum 2020 at Howard Civil Service International House, Taipei, Taiwan*

## PROFESSIONAL ACTIVITIES

- **Conference Reviewer:** ICML 2023, NeurIPS 2023
- **Journal Reviewer:** Pattern Recognition 2020

## TECHNICAL SKILLS

- **Programming Languages:** C/C++, Python, L<sup>A</sup>T<sub>E</sub>X
- **Development Tools:** UNIX, PyTorch, Tensorflow, Scikit-learn, Git