SHUOSHUO CHEN

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RESEARCH INTEREST

I am a Master student, currently focusing on the generalization and adaptation capability of deep learning models for vision tasks. I am particularly interested in topics including domain generalization and test-time adaptation.

EDUCATION

Southern University of Science and Technology Shenzhen, China
Master of Electronic Science and Technology | GPA: 3.72/4.0 | Advisor: Zhihai He (IEEE Fellow) 2021 - 2024
Courses: Advanced Artificial Intelligence (A+); Brain Intelligence and Machine Learning (A-)

Southern University of Science and Technology Shenzhen, China
Bachelor of Information Engineering | GPA: 3.89/4.0 2017 - 2021
Courses: Probability Theory and Mathematical Statistics (A+); Digital Image Processing (A-)

PUBLICATIONS

[C1] Zhehan Kan, **Shuoshuo Chen**, Ce Zhang, Yushun Tang and Zhihai He, "**Self-Correctable and Adaptable Inference for Generalizable Human Pose Estimation**," in Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition **(CVPR)**, 2023. [Paper]

[C2] Yushun Tang, Ce Zhang, Heng Xu, **Shuoshuo Chen**, Jie Cheng, Luziwei Leng, Qinghai Guo, Zhihai He, "**Neuro-Modulated Hebbian Learning for Fully Test-Time Adaptation**," in Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition **(CVPR)**, 2023. [Paper]

[C3] Zhehan Kan, **Shuoshuo Chen**, Zeng Li and Zhihai He, "**Self-Constrained Inference Optimization on Structural Groups for Human Pose Estimation**," in European Conference on Computer Vision **(ECCV)**, 2022. [Paper]

RESEARCH EXPERIENCE

[R1] Feature Shift for Fully Test-time Adaptation Pytorch Mar. 2023 - Sept. 2023

- Observed that existing model adaptation methods are not fully optimized during online batch prediction.
- Explored a plug-and-play approach by directly modifying the feature with specific feature shift direction and shift scale based on the feedback from the model adaptation, avoiding the model overfitting to the small batches.
- One **first-authored** conference paper is currently under review.

[R2] Feature Adjustment for Multi-source Domain Generalization Pytorch Sep. 2022 - Mar. 2023

- Designed a sensor-actuator network model inspired by the adaptive control system to sense the domain drift and adjust the feature embedding accordingly during the inference stage.
- One **first-authored** conference paper is currently under review.

[R3] Self-Adaptable Inference for Generalizable Human Pose Estimation Pytorch Sep. 2021 - Nov. 2022

- Refined keypoint prediction by searching within the neighborhood of the predicted human keypoints to minimize a feedback error and further learned a correction network to adaptively correct the prediction.
- Two second-authored papers [C1] and [C3] were accepted by CVPR 2023 and ECCV 2022, respectively.

SKILLS

Programming Python, MATLAB, LaTeX, Java
Languages Mandarin Chinese, English (IELTS 7.5)

ACTIVITIES

- **Teaching Assistant** of Course EE207 Engineering Mathematics Sept., 2022 - Jan., 2023
- NUS School of Computing (SOC) **Summer Workshop** 2019, Singapore Jul., 2019

AWARDS

- **Excellent Graduate** of Southern University of Science and Technology Jun., 2021
- **Merit Student Scholarship** of Southern University of Science and Technology Nov., 2018 - Nov., 2020