Haiyu Wu

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RESEARCH INTERESTS

- Responsible AI on Ethnicity and Privacy.
- Richer and Diverse Content of Image Generation.
- Logical Reasoning in Object Recognition.

EDUCATION

Ph.D degree in Computer Engineering   *Spring 2022 - Present*
University of Notre Dame, Notre Dame, IN
Advisor: Dr. Kevin W. Bowyer

RECENT PUBLICATIONS

[1] Logical consistency and greater descriptive power for facial hair attribute learning. (*Key Publication*)
Haiyu Wu, Grace Bezold, Aman Bhatta, and Kevin W. Bowyer.
CVPR 2023.

[2] What Should Be Balanced in a "Balanced" Face Recognition Dataset?
Haiyu Wu, and Kevin W. Bowyer.
BMVC 2023.

[3] Consistency and accuracy of celeba attribute values.
Haiyu Wu, Grace Bezold, Manuel Günther, Terrance Boult, Michael C. King, and Kevin W. Bowyer.
VDU Workshop @ CVPR 2023.

[4] Face recognition accuracy across demographics: Shining a light into the problem.
Haiyu Wu, Vítor Albiero, K. S. Krishnapriya, Michael C. King, and Kevin W. Bowyer.
Biometrics Workshop @ CVPR 2023.

[5] Facial Hair Area in Face Recognition Across Demographics: Small Size, Big Effect.
Haiyu Wu, Sicong Tian, Aman Bhatta, Kağan Öztürk, Karl Ricanek, and Kevin W. Bowyer.
Biometrics Workshop @ WACV 2024.

[7] Analyzing the Impact of Demographic and Operational Variables on 1-to-Many Face ID Search.
Pangelinan, Gabriella, Aman Bhatta, Haiyu Wu, Michael C. King, and Kevin W. Bowyer.
IEEE TTS 2024.

[8] Can the accuracy bias by facial hairstyle be reduced through balancing the training data?
Ozturk, Kagan, Haiyu Wu, and Kevin W. Bowyer.
Biometrics Workshop @ CVPR 2024

[9] Our deep cnn face matchers have developed achromatopsia.
Bhatta, Aman, Domingo Mery, Haiyu Wu, Joyce Annan, Michael C. King, and Kevin W. Bowyer.
TCV Workshop @ CVPR 2024.

ARXIV PAPERS

[1] Vec2Face: Scaling Face Dataset Generation with Loosely Constrained Vectors. (*Featured*)
Haiyu Wu, Jaskirat Singh, Sicong Tian, Liang Zheng, and Kevin W. Bowyer.
arXiv 2024.

[2] What is a Goldilocks Face Verification Test Set? (*Featured*)
Haiyu Wu, Sicong Tian, Aman Bhatta, Jacob Gutierrez, Grace Bezold, Genesis Argueta, Karl Ricanek Jr, Michael C. King, and Kevin W. Bowyer.
arXiv 2024.

[3] Identity Overlap Between Face Recognition Train/Test Data: Causing Optimistic Bias in Accuracy Measurement.
Haiyu Wu, Sicong Tian, Jacob Gutierrez, Aman Bhatta, Kağan Öztürk, and Kevin W. Bowyer.
arXiv 2024.

[4] LogicNet: A Logical Consistency Embedded Face Attribute Learning Network.
Haiyu Wu, Sicong Tian, Huayu Li, and Kevin W. Bowyer.
arXiv 2023.

[5] CRAFT: Contextual Re-Activation of Filters for face recognition Training.
Bhatta, Aman, Domingo Mery, Haiyu Wu, and Kevin W. Bowyer.
arXiv 2023.

[6] Beard segmentation and recognition bias.
Ozturk, Kagan, Grace Bezold, Aman Bhatta, Haiyu Wu, and Kevin Bowyer.
arXiv 2023.

BEST PAPER AWARD

Consistency and Accuracy of CelebA Attribute Values	VDU workshop @ CVPR2023

TALKS

Facial Hair Area in Face Recognition across Demographics	Biometrics Workshop @ WACV2024
Face Recognition Accuracy across Demographics	Biometrics Workshop @ CVPR2023
Consistency and Accuracy of CelebA Attribute Values	VDU workshop @ CVPR2023

SKILLS

Models	CLIP, Transformer, Diffusion model, Masked autoencoder
Knowledge	Deep Learning, Lora Fine-tuning, RLHF, DPO, SPO
Hardware	Arduino, Raspberry Pi

REVIEWS

AAAI2025, WACV2025, CVPR2024, ECCV2024, PRLETTERS, WACV2024, IJCB2023, IJCB2024, F&G2024, ICPR2022