Mo Zhou

CONTACT

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STATUS

Chinese citizen

CURRENT

- Johns Hopkins University   Baltimore, MD, USA 21218
  Dept. Electrical and Computer Engineering, Whiting School of Engineering
  Ph.D. Electrical and Electronics Engineering   08/2021 - Current
  Advisor: Vishal M. Patel

INTERESTS

- Deep Learning, Computer Vision, and Multi-modality Models
- Artificial Intelligence Security, Robustness and Trustworthiness
- Linux Operating System Development and Administration

EXPERIENCE

- Google Research, Computational Imaging Team   Mountain View, CA 94043
  Student Researcher (Computer Vision)   05/2024 - 08/2025
  Mentor: Hossein Talebi, Keren Ye, Mauricio Delbracio, Peyman Milanfar

- Microsoft Research, Applied Sciences Group   Redmond, WA 98052
  Research Intern (Deep Learning)   05/2023 - 08/2023
  Mentor: Kazuhito Koishida, Saeed Amizadeh

- Wormpex AI Research LLC   Bellevue, WA 98004
  Research Intern (Computer Vision)   05/2022 - 08/2022
  Mentor: Haoxiang Li, Yiding Yang, Gang Hua

- Xi'an Jiaotong University   Xi'an, Shaanxi 710049
  Institute of Artificial Intelligence and Robotics (IAIR)
  Research Assistant (Computer Vision)   07/2020 - 06/2021
  Supervisor: Le Wang, Sanping Zhou

EDUCATION

- Xidian University   Xi'an, Shaanxi, China 710071
  M.Eng. Pattern Recognition and Intelligent Systems. July, 2020   09/2017 - 06/2020
  Thesis: Coherent Visual-Semantic Embedding for Cross-Modal Retrieval
  Advisor: Zhenxing Niu

- Xidian University   Xi'an, Shaanxi, China 710126
  B.Eng. Electromagnetic Field and Wireless Technology. July, 2017   09/2013 - 07/2017
  Advisor: Zhenxing Niu

PUBLICATIONS

Google Scholar Profile: scholar.google.com/citations?user=BVIO95UAAAAJ
     (Aug. 05 2025)   Citations: 1699   H-Index: 11   i10-Index: 11

Other Identifiers: [ORCiD] [Publons] [Semantic Scholar] [Web of Science] [DBLP]

JOURNAL ARTICLES: (1 TPAMI, 1 TMLR, 1 TMM)

[Openreivew] [arXiv]   [J01] Yatong Bai, <u>Mo Zhou</u>, Vishal M. Patel, Somayeh Sojoudi, *"MixedNUTS: Training-Free Accuracy-Robustness Balance via Nonlinearly Mixed Classifiers,"* Transactions on Machine Learning Research (TMLR), 2024.

[PDF] [arXiv] [Github]   [J02] <u>Mo Zhou</u>, Le Wang, Zhenxing Niu, Qilin Zhang, Nanning Zheng, Gang Hua, *"Adversarial Attack and Defense in Deep Ranking,"* IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2024. DOI: 10.1109/TPAMI.2024.3365699

[PDF]   [J03] Le Wang, <u>Mo Zhou</u>, Zhenxing Niu, Qilin Zhang, Nanning Zheng, *"Adaptive Ladder Loss for Learning Coherent Visual-Semantic Embedding,"* IEEE Transactions on Multimedia (TMM), 2021. DOI: 10.1109/TMM.2021.3139210

CONFERENCE PAPERS: (3 CVPR, 3 ICCV, 1 ECCV, 1 NeurIPS, 1 ICLR, 1 AAAI)

[arXiv]   [C1] <u>Mo Zhou</u>, Keren Ye, Mauricio Delbracio, Peyman Milanfar, Vishal M. Patel, Hossien Talebi, *"UniRes: Universal Image Restoration for Complex Degradations,"* in Proc. IEEE International Conf. on Computer Vision (ICCV), 2025.

[PDF] [arXiv]   [C2] Kangfu Mei, <u>Mo Zhou</u>, Vishal M. Patel, *"Field-DiT: Diffusion Transformer on Unified Video, 3D, and Game Field Generation,"* in Proc. International Conference on Learning Representations (ICLR), 2025.

[PDF] [arXiv] [Github]   [C3] <u>Mo Zhou</u>, Vishal M. Patel, *"On Trace of PGD-Like Adversarial Attacks,"* in Proc. International Conference on Pattern Recognition (ICPR), 2024.

[PDF] [Github]   [C4] Yiqun Mei, Pengfei Guo, <u>Mo Zhou</u>, Vishal M. Patel, *"Resource-Adaptive Federated Learning with All-In-One Neural Composition,"* Advances in Neural Information Processing Systems (NeurIPS), 2022.

[PDF] [arXiv] [Github]   [C5] <u>Mo Zhou</u>, Vishal M. Patel, *"Enhancing Adversarial Robustness for Deep Metric Learning,"* in Proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR), 2022.

[PDF] [arXiv] [Github]   [C6] <u>Mo Zhou</u>, Le Wang, Zhenxing Niu, Qilin Zhang, Yinghui Xu, Nanning Zheng, Gang Hua, *"Practical Order Attack in Deep Ranking,"* in Proc. IEEE International Conf. on Computer Vision (ICCV), 2021.

[PDF] [arXiv] [Github]   [C7] Liushuai Shi, Le Wang, Chengjiang Long, Sanping Zhou, <u>Mo Zhou</u>, Zhenxing Niu, Gang Hua, *"SGCN: Sparse Graph Convolution for Pedestrian Trajectory Prediction",* In Proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR), 2021.

[PDF] [arXiv] [Github]   [C8] <u>Mo Zhou</u>, Zhenxing Niu, Le Wang, Qilin Zhang, Gang Hua, *"Adversarial Ranking Attack and Defense,"* in Proc. European Conf. on Computer Vision (ECCV), 2020.

[PDF] [arXiv] [Github]   [C9] <u>Mo Zhou</u>, Zhenxing Niu, Le Wang, Zhanning Gao, Qilin Zhang, Gang Hua, *"Ladder Loss for Coherent Visual-Semantic Embedding,"* in Proc. AAAI Conf. on Artificial Intelligence (AAAI), 2020.

[PDF]   [C10] Zhenxing Niu, <u>Mo Zhou</u>, Le Wang, Xinbo Gao, Gang Hua, *"Hierarchical Multimodal LSTM for Dense Visual-Semantic Embedding,"* in Proc. IEEE International Conf. on Computer Vision (ICCV), 2017.

[PDF] [Dataset]   [C11] Zhenxing Niu, <u>Mo Zhou</u>, Le Wang, Xinbo Gao, Gang Hua. *"Ordinal Regression with Multiple Output CNN for Age Estimation,"* in Proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR), 2016.

PREPRINT / UNDER-REVIEW PAPERS:

[arXiv]   [X01] <u>Mo Zhou</u>, Keren Ye, Viraj Shah, Kangfu Mei, Mauricio Delbracio, Peyman Milanfar, Vishal M. Patel, Hossien Talebi, *"Reference-Guided Identity Preserving Face Restoration,"* 2025, Under Review.

[arXiv] [Github]   [X02] Yu Zeng*, <u>Mo Zhou</u>*, Yuan Xue, Vishal M. Patel, *"Securing Deep Generative Models with Universal Adversarial Signature,"*, 2023, Under Review.

[arXiv]   [X03] <u>Mo Zhou</u>, Yiding Yang, Haoxiang Li, Vishal M. Patel, Gang Hua, *"Deployment Prior Injection for Run-time Calibratable Object Detection,"* 2022, Under Review.

PATENTS   [P01] Le Wang, <u>Mo Zhou</u>, Sanping Zhou, Shitao Chen, Jingmin Xin, Nanning Zheng, "A Practical Relative Order Adversarial Attack Method". Chinese Patent No. 202110998691.9.

[P02] Zhenxing Niu, Wei Xue, <u>Mo Zhou</u>, Bo Yuan, Xinbo Gao, Gang Hua, "Age estimation method based on multi-output convolution neural network and ordered regression". Chinese Patent No. 201610273524.7.

ACTIVITIES

- Reviewer of International Conferences

  - IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)   2020 – 2025
  - Annual Conf. on Neural Information Processing Systems (NeurIPS)   2022 – 2025
  - International Conf. on Computer Vision (ICCV)   2021 – 2025
  - European Conf. on Computer Vision (ECCV)   2020 – 2024
  - International Conf. Learning Representations (ICLR)   2022 – 2025
  - International Conf. of Machine Learning (ICML)   2023 – 2024
  - AAAI Conf. on Artificial Intelligence (AAAI)   2021 – 2022
  - Winter Conf. on Applications of Computer Vision (WACV)   2021 – 2025
  - Asian Conf. on Computer vision (ACCV)   2018 – 2024
  - International Conf. on Pattern Recognition (ICPR)   2024

- Reviewer of International Journals

  - IEEE Trans. on Pattern Analysis and Machine Intelligence (TPAMI)   2021 – 2023
  - IEEE Trans. on Neural Networks and Learning Systems (TNNLS)   2022
  - IEEE Trans. on Multimedia (TMM)   2023
  - IEEE Trans. on Dependable and Secure Computing (TDSC)   2022
  - Elsevier Journal of Neural Networks (NeuNet)   2022
  - Elsevier Journal of Neurocomputing (NeuComp)   2021
  - Elsevier Journal of Image and Vision Computing (IMAVIS)   2023 – 2024
  - Elsevier Journal of Computers & Security (COSE)   2024
  - Springer Journal: International Journal of Computer Vision (IJCV)   2023 – 2025
  - Springer Journal of Machine Vision and Application (MVA)   2020 – 2023
  - Springer Journal of Complex & Intelligent Systems (CAIS)   2021 – 2023
  - Oxford University Press: The Computer Journal (COMPJ)   2023

- Organizer of International Workshop and Competition

  [Website] ○ Erasing the Invisible: A Stress-Test Challenge for Image Watermarks   NeurIPS 2024
  [Website] ○ 4th Workshop of Adversarial Machine Learning on Computer Vision   CVPR 2024
  [Website] ○ 4th Workshop on Adversarial Robustness In the Real World   ICCV 2023

- Volunteer in Free and Open-Source Software Communities

  - ℗ Official Developer for Debian GNU/Linux   08/2018 – Current
  - 🌙 Contributor for Gentoo GNU/Linux   06/2019 – 08/2019

TEACHING

- Deep Learning (`EN.520.638.01.SP25`)   Spring 2025
  Johns Hopkins University
  Teaching Assistant for Prof. Vishal M. Patel

HONORS

- Outstanding Reviewer for CVPR 2024   2024
- Outstanding Reviewer for ICCV 2021   2021
- Google Summer of Code (GSoC) as Mentor with Debian Project   2025
  Project: *Packaging LLM Inference Libraries* (Student: Kohei Sendai)
- Open Source Promotion Plan (OSPP) with Tsinghua University TUNA Association   2020
  Project: *Integrating Data Science Software into Debian* (Best Quality Award)
- Google Summer of Code (GSoC) as Student with Debian Project   2020
  Project: *BLAS/LAPACK Ecosystem Enhancement for Debian*

- Google Summer of Code (GSoC) as Student with Gentoo Foundation 2019
  Project: *BLAS and LAPACK Runtime Switching*
- Xidian University Secondary School Scholarship.⁺ 2017-2018
- Interdisciplinary Contest in Modeling (ICM) 2016
  Meritorious Winner. Advisor: Youlong Yang (Xidian University)

AFFLIATION
- Student Member, IEEE   Aug 2021 – Dec 2024

REFERENCES   AVAILABLE UPON REQUEST.