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

- Machine Learning, Deep Learning, and Computer Vision
- Object Recognition and Detection, Vision-Language Models
- Multi-Modal Generative Models and Watermarking
- Adversarial Defense and Robustness for AI Security
- Large Language Models and Applications
- Linux Operating System Development and Administration

EXPERIENCE

- Google Research, Computational Imaging Team — Mountain View, CA 94043
  Student Researcher (Computer Vision) — 05/2024 - 10/2024
  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
(Sept. 18 2024) Citations: 1366 H-Index: 10 i10-Index: 10
Other Identifiers: [ORCiD] [Publons] [Semantic Scholar] [Web of Science] [DBLP]

JOURNAL ARTICLES: (1 TPAMI, 1 TMM)

[Openreivew] [arXiv] [J01] Yatong Bai, Mo Zhou, 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] Mo Zhou, 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, Mo Zhou, 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, 2 ICCV, 1 ECCV, 1 NeurIPS, 1 AAAI)

[arXiv] [C01] Mo Zhou, Vishal M. Patel, *"On Trace of PGD-Like Adversarial Attacks,"* in Proc. International Conference on Pattern Recognition (ICPR), 2024.

[PDF] [Github] [C02] Yiqun Mei, Pengfei Guo, Mo Zhou, Vishal M. Patel, *"Resource-Adaptive Federated Learning with All-In-One Neural Composition,"* Advances in Neural Information Processing Systems (NeurIPS), 2022.

[PDF] [arXiv] [Github] [C03] Mo Zhou, 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] [C04] Mo Zhou, 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] [C05] Liushuai Shi, Le Wang, Chengjiang Long, Sanping Zhou, Mo Zhou, 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] [C06] Mo Zhou, 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] [C07] Mo Zhou, 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] [C08] Zhenxing Niu, Mo Zhou, 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] [C09] Zhenxing Niu, Mo Zhou, 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] Kangfu Mei, Mo Zhou, Vishal M. Patel, *"T1: Scaling Diffusion Probabilistic Fields to High-Resolution on Unified Visual Modalities,"* 2023, Under Review.

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

[arXiv] [X03] Mo Zhou, 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, Mo Zhou, 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, Mo Zhou, 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 – 2024
  - Annual Conf. on Neural Information Processing Systems (NeurIPS) 2022 – 2024
  - International Conf. on Computer Vision (ICCV) 2021 – 2023
  - 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 – 2024
  - 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

HONORS

- Outstanding Reviewer for CVPR 2024 2024
- Outstanding Reviewer for ICCV 2021 2021
- 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) with Debian Project 2020
  Project: *BLAS/LAPACK Ecosystem Enhancement for Debian*
- Google Summer of Code (GSoC) 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.