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

INTERESTS

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

EXPERIENCE

- Microsoft Corporation, Applied Sciences Group — Redmond, WA 98052
  Research Intern (Deep Learning) — 05/2023 - 08/2023
- Wormpex AI Research LLC — Bellevue, WA 98004
  Research Intern (Computer Vision) — 05/2022 - 08/2022
- Xi'an Jiaotong University — Xi'an, Shaanxi 710049
  Institute of Artificial Intelligence and Robotics (IAIR)
  Research Assistant (Computer Vision) — 07/2020 - 06/2021

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

PUBLICATIONS

Google Scholar Profile: scholar.google.com/citations?user=BVIO95UAAAAJ
(Dec. 27 2023) Citations: 1129 H-Index: 8 i10-Index: 8
Other Identifiers: [ORCiD] [Publons] [Semantic Scholar] [Web of Science] [DBLP]

JOURNAL ARTICLES: (0 TPAMI, 1 TMM)

[IEEE Xplore]

[J01] 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)

[PDF] [Github]

[C01] 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] [C02] 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] [C03] 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] [C04] 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] [C05] 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] [C06] 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] [C07] 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] [C08] 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.

[X03] Mo Zhou, Yiding Yang, Haoxiang Li, Vishal M. Patel, Gang Hua, *"(object detection),"* 2022, Under Review (double-blind).

[arXiv] [X04] Mo Zhou, Vishal M. Patel, *"On Trace and Characterization of PGD-Like Adversarial Attacks,"* 2022, Under Review.

[arXiv] [Github] [X05] Mo Zhou, Le Wang, Zhenxing Niu, Qilin Zhang, Nanning Zheng, Gang Hua, *"Adversarial Attack and Defense in Deep Ranking,"* 2021, 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 for International Conferences
  - IEEE Conf. on Computer Vision and Pattern Recognition (CVPR) 2020 – 2024
  - Annual Conf. on Neural Information Processing Systems (NeurIPS) 2022 – 2023
  - International Conf. on Computer Vision (ICCV) 2021 – 2023
  - European Conf. on Computer Vision (ECCV) 2020 – 2024
  - International Conf. Learning Representations (ICLR) 2022 – 2024
  - 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 – 2024
  - Asian Conf. on Computer vision (ACCV) 2018 – 2022
  - International Conf. on Pattern Recognition (ICPR) 2024
- Reviewer for 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
- Springer Journal: International Journal of Computer Vision (IJCV) 2023
- 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 for International Workshops

[Website] - 4th Workshop on Adversarial Robustness In the Real World ICCV 2023
[Website] - 4th Workshop of Adversarial Machine Learning on Computer Vision CVPR 2024

• 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
- Contributor of "Deep Dive: AI", Open Source Initiative 2022

HONORS

- 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.