

ZHONGPING ZHANG

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EDUCATION

Boston University <i>Ph.D.</i> in Computer Science, <i>Advisor: Bryan A. Plummer</i>	Boston, MA, US 2019 - 2024 (expected)
University of Rochester <i>Master</i> in Electrical Engineering	Rochester, NY, US 2016 - 2018
Harbin Institute of Technology <i>Bachelor</i> in Control Science & Engineering	Harbin, China 2012 - 2016

RESEARCH INTERESTS

My research interests span computer vision, natural language processing, and AI for science, with a current focus on machine-driven media (*e.g.*, image or text) generation and detection.

EXPERIENCE

Boston University Research Assistant, IVC Group machine manipulated media generation & detection, deep metric learning	Boston, MA Sep 2019 - present
Amazon, Alexa AI Applied Scientist Intern text-driven image editing by diffusion models	Sunnyvale, CA Summer 2022
Kuaishou Technology, Silicon Valley AI Lab Research Intern multi-modal video genre analysis, scene-graph based image editing	Palo Alto, CA Summer 2020 & 2021
Los Alamos National Laboratory Post-master Researcher data-driven methods for geoscience	Los Alamos, NM Jun 2018 - Feb 2019
University of Rochester Research Assistant, VISTa Group image forgery detection, stylized image captioning, social media data mining	Rochester, NY Sep 2017 - May 2018

PUBLICATIONS

- Z. Zhang**, Y. Gu, B. A. Plummer. “Show and Write: Entity-aware Article Generation with Image Information”, in submission.
- Z. Zhang**, J. Zheng, J. Z. Fang, B. A. Plummer. “Text-to-image Editing by Image Information Removal”, In 5th AI for Content Creation Workshop @ CVPR (AI4CC), 2023 (**Best Paper Runner-up Award**)
- Z. Zhang**, H. Hu, B. A. Plummer, Z. Liao, H. Wang. “Complex Scene Image Editing by Scene Graph Comprehension”, In *British Machine Vision Conference (BMVC)*, 2023.
- S. Mishra*, **Z. Zhang***, Y. Shen, R. Kumar, V. Saligrama, B. A. Plummer. “Effectively Leveraging Attributes for Visual Similarity”, In *IEEE International Conference on Computer Vision (ICCV)*, 2021. (* represents equal contribution)
- Z. Zhang**, Y. Lin. “Data-Driven Seismic Waveform Inversion: A Study on the Robustness and Generalization”, In *IEEE Transactions on Geoscience and Remote Sensing (TGRS)*, 2020.
- Z. Zhang**, Y. Lin, Z. Zhou, T. Chen. “Adaptive Filtering for Event Recognition from Noisy Signal: An Application to Earthquake Detection”, In *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2019.

Z. Zhang, Y. Wu, Z. Zhou, Y. Lin. “VelocityGAN: Data-driven Full Waveform Inversion by Conditional Adversarial Networks”, In *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2019.

Z. Zhang, T. Chen, Z. Zhou, J. Li, J. Luo. “How to Become Instagram Famous: Post Popularity Prediction with Dual-Attention”, In *IEEE International Conference on Big Data (IEEE Big Data)*, 2018.

T. Chen, **Z. Zhang**, Q. You, C. Fang, Z. Wang, H. Jin, J. Luo. “Factual” or “Emotional”: Stylized Image Captioning with Adaptive Learning and Attention”, In *European Conference on Computer Vision (ECCV)*, 2018.

Z. Zhang, Y. Zhang, Z. Zhou, J. Luo. “Boundary-based Image Forgery Detection by Fast Shallow CNN”, *International Conference on Pattern Recognition (ICPR)*, 2018.

Y. Meng*, **Z. Zhang***, H. Yin, and T. Ma. “Automatic Detection of Particle Size Distribution by Image Analysis Based on Local Adaptive Canny Edge Detection and Modified Circular Hough Transform”, *Micron*, 2018.

PROFESSIONAL ACTIVITIES

Teaching

BU CS542 Machine Learning, <i>Teaching Fellow</i>	Fall 2020
BU CS101 Introduction to Computer Science, <i>Teaching Fellow</i>	Fall 2019, Spring 2020
UR ECE210 Circuits & Microcontrollers, <i>Teaching Assistant</i>	Spring 2018
UR ECE101 Introduction to Signals & Circuits, <i>Teaching Assistant</i>	Fall 2017

Reviewer/PC Member

IEEE Trans. Affect. Comput.’23; ICML’22; CVPR’22; ICLR’22’23; AAAI’22; NeurIPS’21; Micron’19; ICPR’18

Publicity Chair

BU AIR Seminar’22

Presentation

“VelocityGAN: Subsurface Velocity Image Estimation Using Conditional Adversarial Networks”, *IEEE Winter Conference on Applications of Computer Vision (WACV)*, Hilton Waikoloa Village, Hawaii, Jan. 2019.

“DeepDetect: Earthquake Detection with Convolutional Neural Network”, *Joint Meeting on Machine Learning Applications to Seismology*, University of New Mexico, Albuquerque, NM, Aug. 2018. (Invited talk)

“Spatial-temporal Densely Connected Convolutional Networks: An Application to CO2 Leakage Detection”, *International Exposition 88th Annual Meeting, Society of Exploration, Geophysicists (SEG)*, Anaheim, CA, Oct. 2018.

AWARDS

Best Paper Runner-up Award, 5th AI for Content Creation (AI4CC), CVPR 2023

Tuition Scholarship, University of Rochester (2016-2018)

Second Prize Scholarship, Harbin Institute of Technology (2012-2013)

TECHNICAL SKILLS

Languages: Python, MATLAB, R, Java, \LaTeX

Frameworks: PyTorch, Keras, TensorFlow, OpenCV

Operating Systems: Linux, Mac OSX, Windows