Yi Zheng

Deep Learning Scientist, Thales

Homepage yizheng@bu.edu LinkedIn Google Scholar

Research and Skills

- Extensive academic and industrial R&D experience in computer vision, machine learning, natural language processing, representation learning, biomedical image processing, biometrics, and multimodal learning.
- State-of-the-art knowledge in statistical graphical models, deep learning (CNNs, Transformers, GNNs), object detection, OCR, semantic multimodal content analysis, vision–language models, and biometric recognition (fingerprint, face).
- Solid skills in prototyping and implementing algorithms and systems on Linux, using Python, C/C++, Matlab, OpenCV, TensorFlow, and PyTorch.

Education

Boston University — Boston, MA
Ph.D. in Computer Science; GPA: 3.93/4.0 — *2024*

University of Southern California — Los Angeles, CA
M.S. in Electrical Engineering; GPA: 3.95/4.0 — *2016*

Shandong Normal University — Jinan, China
B.S. in Electrical Engineering; GPA: 3.90/4.0 — *2014*

Publications

J=Journal, C=Conference, W=Workshop

[J.1] **Y. Zheng**, *et al.*, **Graph attention-based fusion of pathology images and gene expression for prediction of cancer survival**, *IEEE Transactions on Medical Imaging*, 2024.

[J.2] R. Gindra, **Y. Zheng**, *et al.*, **Graph perceiver network for lung tumor and bronchial premalignant lesion stratification from histopathology**, *The American Journal of Pathology*, 2024.

[J.3] **Y. Zheng**, *et al.*, **A deep learning-based graph-transformer for whole slide image classification**, *IEEE Transactions on Medical Imaging*, 2022.

[J.4] **Y. Zheng**, *et al.*, **Deep-learning–driven quantification of interstitial fibrosis in digitized kidney biopsies**, *The American Journal of Pathology*, 2021.

[J.5] **Y. Zheng**, *et al.*, **FourierMIL: Fourier filtering-based multiple instance learning for whole slide image analysis**, *International Journal of Computer Vision*, 2025.

[J.6] L. Claus, Y. Zhang, **Y. Zheng**, *et al.*, **Computational Assessment of Early Diabetic Nephropathy**, *Journal of the American Society of Nephrology*, 2022.

[C.1] **Y. Zheng**, *et al.*, **Semantic-Based Sentence Recognition in Images Using Bimodal Deep Learning**, *IEEE International Conference on Image Processing*, 2021.

[C.2] **Y. Zheng**, *et al.*, **LAL: Linguistically aware learning for scene text recognition**, *ACM International Conference on Multimedia*, 2020.

[W.1] Q. Wang, **Y. Zheng**, *et al.*, **A method for detecting text of arbitrary shapes in natural scenes that improvestext spotting**, *Computer Vision and Pattern Recognition Workshop*, 2020.

[W.2] M. Jalal, K. Wang, S.Jefferson, **Y. Zheng**, *et al.*, **Scraping social media photos posted in Kenya and elsewhere to detect and analyze food types**, *Proceedings of the 5th International Workshop on Multimedia Assisted Dietary Management*, 2019.

Work Experience

Thales DIS USA, Inc Los Angeles, CA
Deep Learning Scientist, Full-time *2024-present*
Conducted R&D in machine learning and computer vision for large-scale biometric systems, including the development of a next-generation contactless fingerprint identification system.

- Designed a graph-based fingerprint matching network (patent granted).
- Developed a compact minutiae detection model using a non-NMS tiny object detection framework.

Healthcare Co., General Electric (GE) Beijing, China
Image Quality Engineer, Full-time *2016-2017*
Conducted image algorithm R&D for medical imaging devices, including X-ray and CT systems.

- Developed the Image-based Collimator Edge Detection (ICED) algorithm to automatically identify collimator edges in X-ray images (patent granted).

Brisky, UAV Developer Los Angeles, CA
Software Engineer, Intern *Summer 2015*
Enhanced UAV navigation and image stabilization through computer vision–based control algorithms.

Awards and Honors

Computer Science Research Excellence Award (REA), Boston University, 2022

Masters Honors Fellowship, University of Southern California, 2015

First-class Scholarship Winner, Shandong Normal University, 2011-2014

Professional and Teaching Activities

Reviewer / Program Committee Member

2021	IEEE Access, PETRA, IJIG
2022, 2023	CVPR, ICCV, Nature Communications, Micron
2024, 2025	IEEE Transactions on Medical Imaging, ISCAS, ISBI, CMPB, Journal of Alzheimer's Disease, PBVS Workshop at CVPR

Teaching
BU CS 640: Artificial Intelligence (Graduate Course). Leading TA under Prof. Margrit Betke. Terms: Fall 2017, Fall 2018.
BU CS 132: Linear Algebra (Undergraduate Course). Leading TA under Prof. Abbas Attarwala. Terms: Spring 2018, Spring 2019