

Youshan Zhang, Ph.D.

Professor
Department of Artificial Intelligence
Chuzhou University
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RESEARCH INTERESTS Transfer Learning; Manifold Learning; Computer Vision; Biomedical Image Analysis; Statistical Shape Analysis; Multimodal Learning

PROFESSIONAL EXPERIENCE Department of Artificial Intelligence, **Chuzhou University**, China **09/2025 - present**
Professor

Program Director, M.S. in Artificial Intelligence, **Yeshiva University** **09/2023 - 08/2025**

Department of Graduate Computer Science and Engineering,
Yeshiva University, NYC, NY **08/2022 - 08/2025**
Assistant Professor

Department of Clinical Sciences, **Cornell University**, Ithaca, NY **09/2021 - 08/2022**
Postdoctoral Associate

EDUCATION **Lehigh University**, Bethlehem, PA, USA **08/2017 - 08/2021**
Ph.D., Computer Science
Advised by Prof. Brian D. Davison

University of Southern California, Los Angeles, USA **09/2015 - 05/2017**
M.S., Neuroimaging & Informatics

University of Science and Technology Liaoning, Anshan, China **09/2012 - 07/2015**
B.S., Information & Computing Science

GRANTS **Total > 3 Million\$**
External Grants

Innovation and Application of AI-Driven Intelligent Electrophoresis Analysis for the Life Science Industry (15 Million Yuan $\approx$ 2.21M\$) Exchange Rate 6.8:1 General
Bio-Systems Co., Ltd & Science and Technology Department of Anhui Province

PI: Youshan Zhang **06/2026 - 5/2028**

Gel electrophoresis is one of the most fundamental and core techniques in molecular biology. Gel images serve as the primary raw evidence for nucleic acid analysis, quality assessment, data traceability, and compliance auditing. Traditional manual interpretation suffers from low efficiency, high error rates, and insufficient objectivity, making it difficult to meet the industrial demands for high throughput, high precision, and full traceability. This project aims to develop an AI-powered gel electrophoresis intelligent analysis system that integrates automation, intelligence, precision, and compliance. The system is designed to resolve key pain points in the life-science industry, including inefficient gel analysis workflows, large manual quality-control errors, cumbersome compliance

record-keeping, and gaps in automated pipelines, thereby achieving a full-process digital upgrade of experimental testing.

Mobile Monitoring and Precision Harvesting Robot Technology for Intelligent Orchards (350,000 Yuan $\approx$ 51,470\$) Exchange Rate 6.8:1 Education Department of Anhui Province

PI: Youshan Zhang

01/2026 - 12/2028

Mobile monitoring and harvesting robots are core smart-orchard equipment, yet current designs fall short: inspection robots rely on single-modal sensing, producing one-sided crop-analysis results, while harvesting robots sit idle nine months a year. This project proposes an "integrated functions + full-cycle operation" robot system: (1) multi-modal perception fusing RGB-D, hyperspectral, and LiDAR via vision-language attention models; (2) LiDAR-improved SLAM navigation adapting to rough terrain; (3) a visual-servo bionic flexible gripper with force-tactile feedback for damage-free picking; and (4) a reinforcement-learning multi-robot platform for dynamic task allocation and year-round orchard operation.

Cardiomegaly detection from deep learning to clinical trials (174,990\$)

NSF

PI: Youshan Zhang

09/2024 - 08/2026

Cardiac disease is one of the leading causes of death in both humans and animals. Clinicians usually manually analyze cardiac images, which is time-consuming, tedious, error-prone, and expensive. Therefore, automatic detection of enlargement of the heart (i.e., cardiomegaly) is significant in helping clinicians improve diagnosis accuracy. A major goal of this project is to bridge the clinical trials' frequently used metrics with deep learning models to improve the trustworthiness of the automated quantification of cardiomegaly disease, leading to the improvement of cardiomegaly diagnosis effectiveness. The project aims to develop novel deep-learning models that yield understandable and matched prediction results with clinical metrics. Ultimately, this project will build a unified human-computer interaction software for cardiomegaly labeling, detection, and report generation for the general public without prior domain knowledge.

Internal Grants (25,500\$ in total)

AI-Powered Intelligent Diagnostic Platform for Medical Imaging Development (4 Million Yuan $\approx$ 588,235\$) Exchange Rate 6.8:1

Chuzhou University

PI: Youshan Zhang

11/2025 - 10/2028

This project aims to construct a large-scale, open benchmark dataset for medical report generation. The dataset will include medical images, disease categories, and diagnostic reports covering various diseases in humans and animals, ultimately forming a million-level dataset named MedNet. It will supplement training data for deep learning models in the field of automatic report generation, enhance model generalization across diverse disease domains, and establish this large-scale dataset as a benchmark for intelligent diagnostic report generation. Additionally, the project will propose a multimodal and interpretable automatic report generation model and develop a public-facing diagnostic platform to realize the goal of technology benefiting the public.

Katz bot 2.0 (5,000\$)

Yeshiva University

PI: Youshan Zhang, Co-PI: Rana Khan, Joseph Panzarella

08/2024 - 05/2025

Effective communication within university environments is essential for meeting the diverse needs of various stakeholders, including students, faculty, alumni, and information seekers. Katzbot 2.0 aims to overcome the limitations found in Katzbot 1.0 by using advanced AI techniques for Yeshiva University Katz School of Science and Health. Katzbot 2.0 aims to cover a broad range of academic subjects and resources. It will be available 24/7, providing continuous support and assistance to users whenever they need it. This around-the-clock availability ensures that students and other users

can get help at any time, enhancing their overall learning and academic experience. Katzbot 2.0 strives to significantly improve communication and support within university environments, making it a valuable tool for students, faculty, alumni, and information seekers alike.

Dementia Care Training Chatbot Development (5,000\$)

Yeshiva University

PI: Laurie Blackman, Co-PI: Youshan Zhang

08/2024 - 05/2025

With more than 6 million Americans living with Alzheimer’s disease (AD), inadequate knowledge and skills to address mental health challenges can lead to unnecessary pain and suffering for care recipients. Dementia Care Training Chatbot provides a virtual learning opportunity for users to gain knowledge and experience in a risk-free environment. In this project, we will develop a Dementia Care Training Chatbot (DCTbot) to teach person-centered skills and educate caregivers and practitioners about best practices in working with older adults with Alzheimer’s and other dementia-related diseases. DCTbot will help develop analytical skills, strategic thinking, knowledge, and decision-making abilities to assist users in developing problem-solving skills for working with persons with Alzheimer’s and dementia-related diseases using case scenarios.

Clinical Innovation in Rare Diseases Interactive Information Hub (3,000\$)

Yeshiva University

PI: Rana Khan, Co-PI: Youshan Zhang

08/2024 - 05/2025

Rare Diseases occur in over 300 million people worldwide, and its diagnosis and treatment remain major challenges. A reason for that is the clinical information on rare diseases is scattered and difficult to find and access. This interdisciplinary project aims to address this challenge by creating an interactive, information hub on clinical disease innovation research which will house comprehensive information on rare diseases, including the science, etiology, symptoms, diagnosis, treatments, organizations (private and public) working on it, funding, etc. Having access to this information in one place will help the stakeholders – patients, caretakers, providers – to diagnose and decide on an optimal treatment plan faster. The final product will provide visibility to the Katz School and support its mission to make the world smarter, safer, and healthier.

Image Generation for Medical Applications (7,500\$)

Yeshiva University

PI: Youshan Zhang

06/2023 - 05/2024

Medical images play an important role in diagnosing, treating, and monitoring various diseases. However, the general audience cannot get access to many medical images as in the hospital’s system, and we even have limited medical images of some diseases. Therefore, generating medical images is a useful task to sample more images for different medical applications, such as disease classification, objective detection, and segmentation. Yet generating high-quality medical images can be challenging, particularly when it comes to complex medical images. In this project, we propose advanced diffusion techniques to generate high-quality images that can aid medical applications.

Machine Learning Chat Robot for Students (5,000\$)

Yeshiva University

PI: Youshan Zhang

09/2023 - 05/2024

We aim to develop a machine-learning chat robot that can assist in students’ academic endeavors in machine-learning courses, utilizing a newly developed Generative Pre-trained Transformer (GPT) model. The chat robot aims to provide better personalized and interactive learning experiences for students with machine learning algorithms, natural language processing (NLP), and vast educational resources. It can offer enhanced conversational abilities, personalized learning experiences, comprehensive subject coverage, real-time assistance, and continual learning and improvement. It will cover a wide range of subjects and be available 24/7 to provide immediate assistance and support.

PI: Youshan Zhang

01/2026 -

- Create benchmark datasets for automatic harvesting robots, including both real-world datasets and virtual datasets
- Propose novel algorithms to realize automatic harvesting using an embodied intelligence robot

AI-Powered Intelligent Diagnostic Platform for Medical Imaging Development

Intelligent Diagnostic Platform for Veterinary Field,

Chuzhou University

PI: Youshan Zhang

09/2025 -

- Develop multimodal learning methods to diagnose different diseases in animals
- Collect million-level datasets for veterinary science and form an intelligent diagnostic platform for general public use

Automatic Teaching System,

Yeshiva University

PI: Youshan Zhang

07/2023 - 08/2025

- Propose visual language models for automated teaching and answering student questions
- Develop a platform to support the above models for students and teachers to submit slides, materials, assignments, and communication

Automatic Teaching System,

Yeshiva University

PI: Youshan Zhang

07/2023 - 08/2025

- Propose visual language models for automated teaching and answering student questions
- Develop a platform to support the above models for students and teachers to submit slides, materials, assignments, and communication

Visual Audio denoising,

Yeshiva University

PI: Youshan Zhang

09/2022 - 08/2025

- Propose to convert audio denoising problem into an image generation task
- Develop novel image generation deep learning models for audio denoising

Automatic Cow Teat Video Labeling and Assessment,

Yeshiva University

PI: Youshan Zhang

09/2022 - 05/2024

- Develop few-shot learning methods to label cow videos and make predictions of cows' health status

Automating Management of Teat Tissue Condition in Dairy Cows Through Machine Learning, Cornell University

09/2021 - 05/2023

- Develop a multi-modality machine learning system to predict short-term changes of teat tissues
- Develop an image and video based deep learning classifier to monitor long-term changes of teat tissues

Transductive Learning in Visual Recognition and Regression,

Lehigh University

09/2018 - 08/2021

- Developed deep learning models to handle the dataset bias problem and exploit the connection between source and target domains to facilitate objection recognition/regression/segmentation performance and generalized models to unseen data

Probabilistic Resilience Assessment of Interdependent Systems (PRAISys), Lehigh University **09/2018 - 05/2020**

- Developed mechanistic computational models to evaluate system resilience after disasters and evaluate probabilistic infrastructure interdependencies considering uncertainty
- Provided suggestions for decision-makers to develop effective plans for post-disaster reconstruction

Multimode Data Dimensionality Reduction on Riemannian Manifolds, Lehigh University **08/2017 - 08/2018**

- Proposed mixture probabilistic principal geodesic analysis (MPPGA) model to realize multimode data dimensionality reduction on Riemannian manifolds
- Analyzed shape variability of the corpus callosum

Image Recognition and Analysis, University of Southern California **05/2017 - 08/2017**

- Identified new trends in tobacco products like electronic cigarettes and hookah in 30+ million images and located faces in images

Retinal Layers Optical Coherence Tomography (OCT) Image Segmentation, University of Southern California **08/2016 - 05/2017**

- Focused on segmenting retinal layers using different algorithms, and 3D image denoising

Electric Consumption Data Statistical Analysis and Prediction, University of Science and Technology Liaoning **12/2013 - 08/2016**

- Adopted various algorithms to conduct data preprocessing, and built predictive models
- Predicted electricity consumption for a mineral company in the following year using nonlinear neural networks

INTERNSHIP EXPERIENCE

Seagate Technology, Longmont, CO, USA **01/2021 - 08/2021**
Data Analyst Intern

- Developed unsupervised models for time-series data anomaly detection
- Implemented and deployed defect detection segmentation model on scanning electron microscope (SEM) images
- Created a convolution neural network model to break face detection algorithms down into smaller computations and deployed the model on hard drives with CPU

Lehigh University, Bethlehem, PA, USA **06/2020 - 08/2020**
Image Processing Intern

- Developed novel methods for atom dislocation detection in transmission electron microscopy (TEM) images

Seagate Technology, Bloomington, MN, USA **05/2019 - 08/2019**
Image Processing & Machine Learning Intern

- Developed software to automatically measure the thickness of the head overcoat of TEM images

- Designed a machine learning classifier to predict the categories of HIT images

SUBMITTED PAPERS

Youshan ZHANG*: first author

Youshan ZHANG: student's paper under my instruction

1. KatzBot: Revolutionizing Academic Chatbot for Enhanced Communication
Sahil Kumar, Deepa Paikar, Kiran Sai Vutukuri, Haider Ali, Shashidhar Reddy Ainala, Aditya Murli Krishnan, and Youshan ZHANG
Submitted
2. DX-Mamba: Exploring State Space Model for Dog X-ray Report Generation
Jialu Li and Youshan ZHANG
Submitted
3. Squeezenet Cosine Similarity for Faster Sampling with Leapfrog Solver
Lakshmikar R. Polamreddy, and Youshan ZHANG
Submitted
4. Audio Image Generation for Denoising
Jialu Li and Youshan ZHANG
Submitted

PUBLICATIONS

1. Evaluating Canine Hip Analysis: NANet Model for Norberg Angle Prediction
Yuxiao Yao, Jialu Li, George Hansen, Sheng-Han Yueh, Rory Todhunter, and Youshan ZHANG
Scientific Reports
2. Selective Spatio-Temporal Fruit Inspector (S²FI): A Mamba-based Framework for Rotational Fruit Quality Assessment
Hao Tian, Jie Ju, Guoqi Shan, Fan Wang, Wenzhou Zhang and Youshan ZHANG
In International Conference on Neural Information Processing (ICONIP)
3. WD-Mamba: A W-Mamba Diffusion Model for Enhancing Image Synthesis
Lakshmikar R. Polamreddy, Jialu Li and Youshan ZHANG
In International Conference on Neural Information Processing (ICONIP)
LR Polamreddy, J Li, J Li, Y Zhang
4. Personalized and Adaptive Federated Learning for Canine Cardiomegaly Keypoint Prediction
Jialu Li, Youshan Zhang and Honggang Wang
In Healthcom 2026
5. MedNet and U²-ViT: A Nested Vision Transformer Diffusion Framework for Diverse Medical Images Generation
Lakshmikar R. Polamreddy, Jialu Li and Youshan ZHANG
In Healthcom 2026
6. FruitEnsemble: MLLM-Guided Arbitration for Heterogeneous Ensemble in Fine-Grained Fruit Recognition
Enhui Yu, Junhui Li, Ruitong Lu, Jialu Li, and Youshan ZHANG
In 2026 IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)
7. U²Mamba: A Two-level Nested U-structure Mamba for Salient Object Detection
Junhui Li, Jialu Li, and Youshan ZHANG
IEEE International Conference on Image Processing (ICIP) 2026
8. Hip joint image quality screening based on the Diffusion Mamba model
Pu Wang, Pu Wang, Jialu Li, Zhuoran Zheng, and Youshan ZHANG
Scientific Data 2026

9. UHD image dehazing via anDehazeFormer with atmospheric-aware KV cache
Pu Wang, Pengwen Dai, Chen Wu, Yeying Jin, Dianjie Lu, Guijuan Zhang, Youshan Zhang, and Zhuoran Zheng
Neurocomputing 2026
10. Unifying VLM-Guided Flow Matching and Spectral Anomaly Detection for Interpretable Veterinary Diagnosis
Pu Wang, Zhixuan Mao, Jialu Li, Zhuoran Zheng, Dianjie Lu, and Youshan ZHANG
IEEE International Conference on Multimedia and Expo (ICME) 2026
11. MambaVoiceCloning: Efficient and Expressive Text-to-Speech via State-Space Modeling and Diffusion Control
Sahil Kumar Namrataben Patel, Honggang Wang, and Youshan ZHANG
ICLR 2026
12. A Novel Network Based on Decoupled HSV Look-Up Tables to Reduce Purple Flare **2026**
Pu Wang, Shuning Sun, Jialang Lu, Chen Wu, Zhihua Zhang, Youshan ZHANG, Chenggang Shan, Dianjie Lu, Guijuan Zhang, and Zhuoran Zheng
AAAI
13. The deficit of new information in diffusion models: a focus on diverse samples **2025**
Lakshmikar R. Polamreddy, Jialu Li and Youshan ZHANG
Information Fusion
14. 4EV: Adaptive Video Editing with Spatial-Temporal Dynamics and Customizable Motion Pathways **2025**
Namrata Patel, Jialu Li, Lakshmi Priya Ramisetty, Aditya Singh Parmar and Youshan ZHANG
IEEE Access
15. **AgentPolyp: Accurate Polyp Segmentation via Image Enhancement Agent** **2025**
Wang, Pu, Zhihua Zhang, Guangwei Gao, Youshan ZHANG, and Zhuoran Zheng
IEEE Signal Processing Letters
16. **Next-generation machine learning model to measure the Norberg angle on canine hip radiographs increases accuracy and time to completion** **2025**
George C. Hansen, Yuxiao Yao, Anthony J. Fischetti, Anthony Gonzalez, Ian Porter, Rory J. Todhunter, and Youshan ZHANG
American Journal of Veterinary Research
17. **Automatic Chest X-ray Image Caption for Report Generation** **2025**
Jialu Li, and Youshan ZHANG
IEEE CHASE GenAI4SCH Workshop
18. **Leapfrog Latent Consistency Model (LLCM) for Medical Images Generation** **2025**
Lakshmikar R. Polamreddy, Kalyan Roy, Sheng-Han Yueh, Deepshikha Mahato, Shilpa Kuppli, Jialu Li, and Youshan ZHANG
IEEE CHASE GenAI4SCH Workshop
19. **Automatic Teaching Platform on Vision Language Retrieval Augmented Generation** **2025**
Ruslan Gokhman, Jialu Li, and Youshan ZHANG
IEEE Integrated STEM Education Conference
20. **Optimizing Veterinary Language Modeling with Mamba Architecture for Long-Sequence Efficiency** **2025**
Lakshmi Priya Ramisetty, and Youshan ZHANG
IEEE/ACM Conference on Connected Health: Applications, Systems and Engineering Technologies
21. **Polyp Detection in Colonoscopy Videos via Boosted Multi-Scale Feature Fusion** **2025**

*Jatin Kayasth, Ashish Yakub beary, Likun L Xia, **Youshan ZHANG** and Ming Ma*
IEEE International Symposium on Biomedical Imaging

22. **Confident Pseudo labeled Diffusion Augmentation for Canine Cardiomegaly Detection**
Shiman Zhang, Lakshmikar R. Polamreddy, and Youshan ZHANG
IEEE/CVF Winter Conference on Applications of Computer Vision Workshops
23. **SST-EM: Advanced Metrics for Evaluating Semantic, Spatial and Temporal Aspects in Video Editing**
Varun Biyyala, Bharat Chanderprakash Kathuria, Jialu Li, and Youshan ZHANG
IEEE/CVF Winter Conference on Applications of Computer Vision Workshops
24. **SparrowVQE: Visual Question Explanation for Course Content Understanding 2024**
Jialu Li, Manish Kumar Thota, Ruslan Gokhman, Radek Holik, and Youshan ZHANG
IEEE Big Data
25. **Diffusion Data Augmentation for Enhancing Norberg Hip Angle Estimation 2024**
Sheng-Han Yueh, Fiona Higgins, Zoe Lin, Rory Todhunter, and Youshan ZHANG
Veterinary Radiology & Ultrasound
26. **ClassVision: AI-Powered Classroom Attendance System** 2024
Ankit Kumar Aggarwal, Veerabhadra Rao Marellapudi, Ovadia Sutton, and Youshan ZHANG
International Conference on Digital Data Processing
27. **Vision Transformer Segmentation for Visual Bird Sound Denoising** 2024
Sahil Kumar, Jialu Li, and Youshan ZHANG
In INTERSPEECH 2024
28. **Complex Image-Generative Diffusion Transformer for Audio Denoising** 2024
Junhui Li, Jialu Li, Pu Wang, and Youshan ZHANG
In INTERSPEECH 2024
29. **Diffusion Gaussian Mixture Audio Denoise** 2024
Pu Wang, Junhui Li, Jialu Li, Liangdong Guo and Youshan ZHANG
In INTERSPEECH 2024
30. **Diffusion Data Augmentation for Enhancing Norberg Hip Angle Estimation 2024**
Sheng-Han Yueh, Fiona Higgins, Zoe Lin, Rory Todhunter, and Youshan ZHANG
Symposium on Artificial Intelligence in Veterinary Medicine (SAVY)
31. **Pink Guardian: A Gateway to Early Breast Cancer Detection** 2024
Kanchan Subhashchandra Maurya and Youshan ZHANG
In 16th International Conference on Human System Interaction (HSI) 2024
32. **Regressive Vision Transformer for Dog Cardiomegaly Assessment** 2023
Jialu Li and Youshan ZHANG
Scientific Reports
33. **Deep Feature Registration for Unsupervised Domain Adaptation** 2023
Youshan ZHANG and Brian D. Davison*
International Conference on Digital Data Processing
Best Paper Award
34. **DCHT: Deep Complex Hybrid Transformer for Speech Enhancement** 2023
Jialu Li, Junhui Li, Pu Wang, and Youshan ZHANG
International Conference on Digital Data Processing
35. **DPATD: Dual-Phase Audio Transformer for Denoising** 2023
Junhui Li, Pu Wang, Jialu Li, Xinzhe Wang, and Youshan ZHANG
International Conference on Digital Data Processing

36. **DeepLabV3+ Vision Transformer for Visual Bird Sound Denoising**
Junhui Li, Pu Wang and Youshan ZHANG 2023
IEEE Access
37. **Complex Image Generation SwinTransformer Network for Audio Denoising**
Youshan ZHANG*, and Jialu Li 2023
In INTERSPEECH 2023
38. **LaksNet: an end-to-end deep learning model for self-driving cars in Udacity simulator**
Lakshmikar Reddy Polamreddy and Youshan ZHANG 2023
In Future Technologies Conference (FTC 2023)
39. **BirdSoundsDenoising: Deep Visual Audio Denoising for Bird Sounds**
Youshan ZHANG*, and Jialu Li 2023
In IEEE/CVF Winter Conference on Applications of Computer Vision (WACV 2023)
40. **SCORN: Sinter Composition Optimization with Regressive Convolutional Neural Network**
Junhui Li, Liangdong Guo and Youshan ZHANG, 2022
MDPI Solid
41. **Unsupervised Few Shot Key Frame Extraction For Cow Teat Videos**
Youshan ZHANG*, Matthias Wieland, and Parminder Basran 2022
MDPI Data
42. **Separable Confident Transductive Learning for Dairy Cows Teat-End Condition Classification**
Youshan ZHANG*, Ian Porter, Matthias Wieland, and Parminder Basran 2022
MDPI Animals
43. **Artificial Intelligence 101 for Veterinary Diagnostic Imaging**
Hespe Adrien-Maxence, Youshan ZHANG, and Parminder Basran 2022
Veterinary Radiology & Ultrasound
44. **Delta Thermal Radiomics: an Application in Dairy Cow Teat-ends**
Parminder S. Basran, Claire DiLeo Youshan ZHANG, Ian R. Porter, and Matthias J. Wieland 2022
JDS Communications
45. **Dairy Cow Teat-end Condition Classification Using Separable Transductive Learning**
Youshan ZHANG* Parminder S. Basran, Ian R. Porter, and Matthias J. Wieland 2022
In 61st National Mastitis Council (NMC) Annual Meeting
46. **Deep Least Squares Alignment for Unsupervised Domain Adaption**
Youshan ZHANG* and Brian D. Davison 2021
In 32nd British Machine Vision Conference (BMVC 2021)
47. **Enhanced Separable Disentanglement for Unsupervised Domain Adaptation**
Youshan ZHANG* and Brian D. Davison 2021
In 2021 IEEE International Conference on Image Processing (ICIP 2021)
48. **Automatic Head Overcoat Thickness Measure with NASNet-Large-Decoder Net**
Youshan ZHANG*, and Brian D. Davison, Vivien W. Talghader, Zhiyu Chen, Zhiyong Xiao, Gary Kunkel 2021
In Future Technologies Conference (FTC 2021)
49. **Correlated Adversarial Joint Discrepancy Adaptation Network for Unsupervised Domain Adaptation**
Youshan ZHANG* and Brian D. Davison 2021
In 2021 International Conference on Content-Based Multimedia Indexing (CBMI 2021)

50. **Deep Spherical Manifold Gaussian Kernel for Unsupervised Domain Adaptation**
Youshan ZHANG and Brian D. Davison* **2021**
 In IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)
51. **Efficient Pre-trained Feature Selection and Recurrent Pseudo-Labeling in Domain Adaptation**
Youshan ZHANG and Brian D. Davison* **2021**
 In IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)
52. **Adversarial Regression Learning for Bone Age Estimation**
Youshan ZHANG and Brian D. Davison* **2021**
 In 27th Information Processing in Medical Imaging (IPMI)
53. **Weighted Pseudo Labeling Refinement for Plant Identification**
Youshan ZHANG and Brian D. Davison* **2021**
 In CLEF working notes 2021, CLEF: Conference and Labs of the Evaluation Forum
54. **Adversarial Reinforcement Learning for Unsupervised Domain Adaptation**
Youshan ZHANG, Hui Ye, and Brian D. Davison* **2021**
 In IEEE/CVF Winter Conference on Applications of Computer Vision (WACV 2021)
55. **Adversarial Continuous Learning on Unsupervised Domain Adaptation**
Youshan ZHANG and Brian D. Davison* **2020**
 In 25th International Conference on Pattern Recognition Workshops (ICPRW 2020)
56. **Adversarial Consistent Learning on Partial Domain Adaptation of PlantCLEF 2020 Challenge**
Youshan ZHANG and Brian D. Davison* **2020**
 In CLEF working notes 2020, CLEF: Conference and Labs of the Evaluation Forum
57. **Bayesian Geodesic Regression on Riemannian Manifolds**
*Youshan ZHANG** **2020**
 In 31nd British Machine Vision Conference (BMVC 2020)
58. **Domain Adaptation for Object Recognition Using Subspace Sampling Demons**
Youshan ZHANG and Brian D. Davison* **2020**
 Multimedia Tools and Applications (MTAP 2020)
59. **Impact of ImageNet Model Selection on Domain Adaptation**
Youshan ZHANG and Brian D. Davison* **2020**
 In IEEE Winter Conference on Applications of Computer Vision Workshops (WACVW 2020)
60. **Mixing Deep Visual and Textual Features for Image Regression**
Yuying Wu, and Youshan ZHANG **2020**
 In Intelligent Systems Conference
61. **Inference Attacks on Genomic Privacy with an Improved HMM and an RCNN Model for Unrelated Individuals**
Hongfa Ding, Youliang Tian, Changgen Peng, Youshan ZHANG, and Shuwen Xian **2020**
 Information Sciences
62. **Transductive Learning via Improved Geodesic Sampling**
Youshan ZHANG, Sihong Xie, and Brian D. Davison* **2019**
 In 30nd British Machine Vision Conference (BMVC 2019)
63. **ShapeNet: Age-focused Landmark Shape Prediction with Regressive CNN**
Youshan ZHANG and Brian D. Davison* **2019**
 In 2019 International Conference on Content-Based Multimedia Indexing (CBMI 2019)
64. **Mixture Probabilistic Principal Geodesic Analysis**
Youshan ZHANG, Jiarui Xing, and Miaomiao Zhang* **2019**
 Multimodal Brain Image Analysis and Mathematical Foundations of Computational Anatomy

65. **A Fast Multi-phases Demon Image Registration for Atlas Building**
Youshan ZHANG* **2019**
 In Future Technologies Conference
66. **K-means Principal Geodesic Analysis on Riemannian Manifolds**
Youshan ZHANG* **2019**
 In Future Technologies Conference
67. **Bayesian Estimation for Fast Sequential Diffeomorphic Image Variability**
Youshan ZHANG* **2019**
 In Science and Information Conference
68. **Automated Identification of Hookahs (Waterpipes) on Instagram: An Application in Feature Extraction Using Convolutional Neural Network and Support Vector Machine Classification**
Youshan ZHANG**, *Allem Jon-Patrick*, *Unger Jennifer Beth*, and *Cruz Tess Boley **2019**
 Journal of Medical Internet Research
69. **A Regressive Convolution Neural network and Support Vector Regression Model for Electricity Consumption Forecasting**
Youshan ZHANG** and *Qi Li **2019**
 In Future of Information and Communication Conference
Best Student Paper Award
70. **Accuracy and Safety of Lateral Vertebral Notch-Referred Technique Used in Sub-axial Cervical Pedicle Screw Placement**
Zhimin Pan, Junlong Zhong, Shiming Xie, Limin Yu, Chunyang Wu, Yoon Ha, Keung Nyun Kim, Youshan ZHANG, and Kai Cao. **2019**
 Operative Neurosurgery
71. **Corticospinal Tract (CST) Reconstruction Based on Fiber Orientation Distributions (FODs) Tractography**
Youshan ZHANG* **2018**
 In IEEE 18th International Conference on Bioinformatics and Bioengineering (BIBE 2018)
72. **Electricity Consumption Forecasting Method Based on MPSO-BP Neural Network Model**
Youshan ZHANG**, *Liangdong Guo*, and *Qi Li **2016**
 In 4th International Conference on Electrical & Electronics Engineering and Computer Science (ICEEECS 2016)
73. **Forecasting Model of Electric Energy Consumption Based on FNN**
Xia Meng, Shufeng Wang, Youshan ZHANG **2015**
 Journal of University of Science and Technology Liaoning (In Chinese)
74. **Robust Exponential Stability of Stochastic Discrete-time BAM Neural Networks with Markovian Jumping Parameters and Delays**
Liangdong Guo, Jin Nie, and Youshan ZHANG **2014**
 In Advanced Materials Research
75. **Robust Stability Analysis for Neutral Systems with Uncertainty and Mixed Delays**
Xiaoyu Wang, Youshan ZHANG, Junbo Zhao, and Songtao Jiang* **2014**
 Journal of University of Science and Technology Liaoning (In Chinese)
76. **Forecasting Model of Electric Energy Consumption with BP Neural Network**
Youshan ZHANG**, *Guangyuan Li*, *Jun Xing*, and *Liangdong Guo **2014**
 Journal of University of Science and Technology Liaoning (In Chinese)

Other Articles and Reports

1. **Youshan ZHANG**, (2023). Stall number detection of cow teats key frames. arXiv preprint arXiv:2303.10444.
2. **Youshan ZHANG**, (2023). Lung segmentation with NASNet-Large-Decoder Net. arXiv preprint arXiv:2303.10315.
3. **Youshan ZHANG**, (2021). A survey of unsupervised domain adaptation for visual recognition. arXiv preprint arXiv:2112.06745.
4. **Youshan ZHANG** and Brian D. Davison (2019). Modified distribution alignment for domain adaptation with pre-trained Inception ResNet. arXiv preprint arXiv:1904.02322.

TEACHING

Instructor , Chuzhou University	09/2025 -
• Deep Learning	Fall 2026
• Deep Learning and LLMs	Spring 2026
Instructor , Yeshiva University	08/2022 - 08/2025
• Neural Networks & Deep Learning (AIM 5007)	Spring 2023, Fall 2023, Summer 2024, Fall 2024, Spring 2025
• Capstone (AIM 5008)	Fall 2023, Spring 2024, Fall 2024, Spring 2025
• Internship (AIM 5500)	Fall 2023, Spring 2024, Fall 2024, Spring 2025
• Independent Study (AIM 5999)	Spring 2023, Fall 2023, Spring 2024, Fall 2024, Spring 2025
• Machine Learning (AIM 5005)	Spring 2023
• Artificial Intelligence (AIM 5000)	Fall 2022
• Computer Vision (AIM 5014)	Fall 2022
Teaching Assistant , Lehigh University	08/2020 - 12/2020
• Introduction to Programming (CSE 007)	
Graduate Assistant , Lehigh University	05/2018 - 08/2018
• Offered individual help for the research projects of undergraduates (Research Experience for Undergraduates (REU) funded by NSF)	
• Connected students with faculty mentors to increase their understanding of individual projects	

RESEARCH MENTORING

Junhui Li, Chuzhou University (Ph.D. student)	Fall 2024 -
Shuang Wang, Chuzhou University (Master's student)	Fall 2025 -
Xianfeng Wang, Chuzhou University (Master's student)	Fall 2025 -
Wencong Liu, Chuzhou University (Master's student)	Fall 2026 -
Yu Xiong, Chuzhou University (Master's student)	Fall 2026 -
Zhijie Zhu, Chuzhou University (Master's student)	Fall 2026 -
Xinnan Wang, Chuzhou University (Master's student)	Fall 2026 -
Zhihua Wang, Chuzhou University (Master's student)	Fall 2026 -
Jie Hu, Chuzhou University (Undergraduate student)	Fall 2025 -

Guoqi Shan, Chuzhou University (Undergraduate student)	Fall 2025 -
Wenzhuo Zhang, Chuzhou University (Undergraduate student)	Fall 2025 -
An Qian, Chuzhou University (Undergraduate student)	Fall 2025 -
Xinyue Sun, Chuzhou University (Undergraduate student)	Fall 2025 -
Xinyue Li, Chuzhou University (Undergraduate student)	Fall 2025 -
Yaqi Yang, Chuzhou University (Undergraduate student)	Fall 2025 -
Fan Wang, Chuzhou University (Undergraduate student)	Fall 2025 -
Chunqi Wang, Chuzhou University (Undergraduate student)	Fall 2025 -
Denghui Cao, Chuzhou University (Undergraduate student)	Fall 2025 -
Chen Liang, Chuzhou University (Master's student)	Fall 2026 -
Chengchen Guo , Chuzhou University (Undergraduate student) 2026/09: Master's student at Anhui Jianzhu University	Fall 2025 - Summer 2026
Zhiyuan Sun, Chuzhou University (Undergraduate student) 2026/09: Master's student at Anhui University of Science and Technology	Fall 2025 - Summer 2026
Hao Tian, Chuzhou University (Undergraduate student) 2026/09: Master's student at Nanjing Agricultural University	Fall 2025 - Summer 2026
Pu Wang (Master' student) 2026/09: Ph.D. student at Shandong University	Fall 2021 - Spring 2026
Namrataben Pinkesh Patel, Yeshiva University (Ph.D. student)	Spring 2025 - Fall 2025
Sahil Kumar, Yeshiva University (Ph.D. student)	Fall 2024 - Fall 2025
Lakshmikar Reddy Polamreddy, Yeshiva University (Ph.D. student)	Spring 2024 - Fall 2025
Manish Kumar Thota (Master) 2024/07: S&P Global, New York	2023/08 - 2024/05
Sayed Raheel Hussain (Master) 2024/06: Palazzo, Inc	2023/05 - 2024/05
Sheng-Han Yueh (Master)	2023/05 - 2024/05
Radek Holik (Master)	2023/05 - 2024/05
Yujie Wu (Master)	2023/05 - 2024/05
Pinxue Lin (Master)	2023/05 - 2024/05
Haomiao Liu, Cornell University (graduate student)	Fall 2021, Spring 2022

	Zhuoyu Xu, Cornell University (undergraduate student)	Fall 2021
	Similolu Ogunyemi, REU (undergraduate student)	Summer 2021
	Jacob Elam, REU (undergraduate student)	Summer 2021
	Pawat Rithipreedanant, Lehigh University (undergraduate student)	Summer 2019
	Thomas Szewczyk, Lehigh University (undergraduate student)	Summer 2019
SERVICE	1. Faculty Search Committee Member (Artificial Intelligence, Yeshiva University)	Spring 2023, Spring 2024
	2. Curriculum Director, M.S. in Artificial Intelligence, Yeshiva University)	09/2023 - present
	3. Conference Program Chair	
	1. IEEE Digital Data Processing (DDP 2024)	
	4. Associated Editor	
	1. IEEE Internet of Things (IoT)	
	5. Conference Program Committee Member	
	1. Future of Information and Communication Conference (2020-2023)	
	2. Computing Conference (2020-2023)	
	3. International Conference on Information Technology, Education and Development (2021)	
	4. Future Technologies Conference (2020-2023)	
	6. Reviewer	
	1. International Conference on Learning Representations (ICLR)	
	2. Association for the Advancement of Artificial Intelligence (AAAI)	
	3. European Conference on Computer Vision (ECCV)	
	4. IEEE International Conference on Image Processing (ICIP)	
	5. International Conference on Computer Vision (ICCV)	
	6. IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)	
	7. International Conference on Artificial Intelligence and Statistics (AISTATS)	
	8. British Machine Vision Conference (BMVC)	
	9. Medical Image Computing and Computer Assisted Intervention (MICCAI)	
	10. IEEE Winter Conference on Applications of Computer Vision (WACV)	
	11. Imaging Systems and Technology (Journal)	
	12. Computer Vision of Frontiers (Journal)	
	13. Plant Science of Frontiers (Journal)	
	14. Multimedia Tools and Applications (Journal)	
	15. Peer-to-Peer Networking and Applications (Journal)	
	16. IEEE Transactions on Industrial Informatics (Journal)	

HONORS AND AWARDS	Best Paper Award of DDP 2023	11/2023
	Emerging Research Award of FTC 2023	11/2023
	Rossin Professional Development Program Awards	05/2021
	Selected for Doctoral Consortium at WACV 2021	12/2020
	Best Student paper Award of FICC 2019	12/2018
	CIA MRI Safety and Scanner Training for MRI Professionals Level 1 & 2	03/2017
	Outstanding Graduation Thesis of University of Science and Technology Liaoning	07/2015
	First Prize of Mathematical Modeling Contest in Three Provinces of Northeast of China	05/2015
	First Prize of Challenge Cup in Liaoning Province	05/2015
	Meritorious Winner of Mathematical Contest in Modeling (MCM) (top 9% of 7636 teams)	04/2015
	Second Prize of Mathematical Modeling Contest in Three Provinces of Northeast of China	
	(Twice)	2013 - 2015
	National Encouragement Scholarship (Twice)	2012 - 2014
	Honorable Prize of Mathematical Contest in Modeling (MCM)	04/2014
	First Prize of China Undergraduate Mathematical Contest in Modeling, (Liaoning)	09/2014
	Second Prize of ERP Sandbox Simulation of Enterprise Management Contest	04/2014
	Certificate of English Assistant Translation Test of Business Language	12/2013
COMPUTER SKILLS	Python, Matlab, C, C++, R, JAVA, HTML, SPM12, Freesurfer, SPSS, SAS, Mathematica, Lingo, FrontPage	