

# Nuojunxi Zhang

Union, NJ | zhangnuojunxi@gmail.com | 929-988-2116

## Education

**Kean University**, BS in Computer Science Sept 2022 – May 2026  
(Expected)

- Currently completing degree at Kean University, Union, NJ, after two years at Wenzhou-Kean University (2022–2024) as part of a joint program
- **Coursework:** Data Structures and Algorithms, Machine Learning, Computer Architecture, Object-Oriented Programming, Software Engineering
- Dean's Honor List, Kean University (Sep 2024 – May 2025, GPA 3.91 for the academic year)

## Publications

**Segmenting What Matters: A Dual-Stage Active Learning Framework for Weakly Supervised Breast Ultrasound Segmentation**, IEEE-BIBM 2025 Under Review  
Nuojunxi Zhang (First Author), Kuan Huang (Advisor)

**Poster: Medical Computer Vision for Parkinson's Rehabilitation**, Research Day – April 2023  
Wenzhou-Kean University  
Nuojunxi Zhang (Presenter)

## Experience

**Research Assistant**, NSF-Funded Project on Tumor Segmentation – Kean University June 2025 – Present

- Selected as NSF-funded research assistant under the supervision of Prof. Kuan Huang
- Contributing to a journal-targeted study on medical image segmentation using ultrasound datasets
- Responsibilities include algorithm development, experimental design, and manuscript preparation

**Research Assistant**, Dual-Stage Active Learning Segmentation – Kean University Dec 2024 – May 2025

- Designed a dual-stage active learning framework to improve weakly supervised tumor segmentation using image-level labels in BUS ultrasound datasets
- Developed CAM filtering with HSV-based contour constraints and used SAM to generate refined pseudo labels from selected high-quality CAMs
- Integrated a Mean Teacher segmentation model with iterative uncertainty-based structure, achieving 68.25% IoU and 79.39% DSC on BUSI dataset
- First-author paper under review at IEEE-BIBM 2025, supervised by Prof. Kuan Huang
- Appointed as research assistant under NSF funding, contributing to project design, experimentation, and publication

**Research Participant**, Medfusion Fake Image Generator – Kean University Sept 2024 – Dec 2024

- Developed a synthetic medical image pipeline using Variational Autoencoders (VAE) and Diffusion Models to augment breast ultrasound datasets for weakly supervised segmentation
- Training a latent VAE embedder and conditional diffusion model on BUSI dataset
- Designed experiments using diffusion-generated images and weak labels to evaluate their impact on downstream segmentation performance

**Research Assistant**, Vision-AI Lab – Wenzhou-Kean University Sep 2023 – May 2024

- Joined Prof. Gupta's Vision-AI Lab to support projects in computer vision and medical imaging
- Participated in a SPF-funded initiative focused on raw image denoising using Bayer pattern modeling
- Worked on latent space extensions and codebase adaptation based on a prior CVPR 2022 Workshop project developed by a former lab member under the same advisor

**Vice President**, WKU Computer Club

Jan 2024 – Jun 2024

- Managed and planned club operations, overseeing departmental organization and project planning
- Led strategic initiatives that increased active membership and project participation by 30%

**College Assistant**, School of Science and Technology, Wenzhou-Kean University

Aug 2022 – May 2024

- Assisted faculty with event promotion and day-to-day coordination of academic activities
- Streamlined scheduling workflows, improving operational efficiency across departmental projects

**Research Participant**, Parkinson's Rehabilitation Interface – Wenzhou-Kean University

Feb 2023 – June 2023

- Developed a program that captures patients' hand movements and provides real-time feedback for rehabilitation assessment
- Earned the *Outstanding Presentation* award at WKU Research Day for demonstrating prototype results

## Technologies

---

**Languages:** Java, Python, C#, SQL, MATLAB

**Tools & Frameworks:** PyTorch, TensorFlow, Adobe Premiere Pro, Photoshop, Audition, Git, Linux, Object-Oriented Design, System Testing, Technical Writing