

# XUBIN SUN

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## EDUCATION BACKGROUND

### Kean University

Union, NJ | Sep. 2022-Jun. 2026 (Expected)

- **Major:** Computer Science; GPA: 3.922/4.0; Ranking: 5 /140
- **Minor:** Mathematics Science

**Honors:** Dean's List (Spring & Fall 2023, Spring & Fall 2024, Spring 2025); Dean's Scholarship-Third Class (2022-2023); Dean's Scholarship-Second Class (2024-2025)

## PUBLICATIONS

Sun, X., Li, D., & Yang, G. (2024). Privacy dataset distillation for medical imaging using class centralization and covariance matching for OCTMNIST. In *Proceedings of the Fourth International Conference on Advanced Algorithms and Signal Image Processing (AASIP 2024)*, Vol. 13269, 132690D. DOI: 10.1117/12.3045706

Yang, G., Qi, J., & Sun, X. (2024). Robust medical image classification with curvature regularization on the PATHMNIST. In *Proceedings of the Fourth International Conference on Computer Graphics, Image, and Virtualization (ICCGIV 2024)*, Vol. 13288, 132880W. DOI: 10.1117/12.3044867

Li, B., Zhong, Z., Zhang, H., Sun, X., & Ihnaini, B. (2025). Improving negative rejection ability in language models: A review of fine-tuned LLMs, RAG, and RAFT. In *Journal of King Saud University Computer and Information Sciences (SCI)*. DOI: 10.1007/s44443-025-00334-6

## RESEARCH EXPERIENCE

### Virtual Avatar Development System for Dementia Patients

Team Member, Supervised by Prof. Malihe Aliasgari

Union, NJ | Jan. 2025-May 2025

- Enabled mutual conversion between speech and text in human-computer interaction using STT and TTS models, achieving 92% average speech recognition accuracy.
- Integrated a RAG-based large language model to generate dialogue tailored for patients with dementia, keeping response times around 3-4 seconds to ensure smooth user experience.
- Synchronized digital avatar's lip movements and emotional expressions with speech using Unreal Engine 5 and Audio2Face.

### Optimization and Explainable Analysis of a Deep Learning-Based Plant Disease Classification System

Team Member, Supervised by Prof. Omar Dib

Wenzhou, China | May 2024-Jun. 2025

- Designed and trained multiple CNN models for a five-class disease image classification task, improved accuracy to 91% via model stacking, and addressed class imbalance through data augmentation and resampling techniques.
- Visualized decision process with Grad-CAM, enhancing model interpretability and transparency.
- Developed a Streamlit-based web application integrated with ChatGPT, enabling users to upload plant disease images and receive classification results with specific treatment recommendations.

### Robust Medical Image Classification with Curvature Regularization on the PATHMNIST

Team Member

Wenzhou, China | May 2024-Aug. 2024

- Developed a new deep learning framework, MedMamba, applying curvature regularization by controlling Hessian eigenvalues to increase model robustness.
- Designed a dual-branch SS-Convd-SSM module that combined dilated and depthwise separable convolutions with attention to ensure precise feature extraction.
- Carried out adversarial attacks using Fast Gradient Sign Method and Projected Gradient Descent to test stability under noise and perturbations, resulting in only a 5.6% drop in average accuracy and 4.1% drop in AUC.

### Privacy Dataset Distillation for Medical Imaging Using Class Centralization and Covariance Matching for OCTMNIST

Team Leader

Wenzhou, China | Mar. 2024-Jul. 2024

- Co-designed a data distillation method that introduced class-centric and covariance-matching constraints, balancing privacy protection with retention of key data features.

- Conducted multiple OCTMNIST distillation experiments under varied images-per-class (IPC) settings (1, 2, 5, 10) to validate robustness and generalization capability.
- Performed benchmarking against leading distillation methods (DC, DM, and DSA3) to evaluate model stability and classification accuracy, and reached 47.25% accuracy under IPC 1, surpassing existing best results.
- Assessed privacy protection by quantifying differences between original and distilled images, with cross-class Structural Similarity Index ranging 0.68 – 0.75 and L2 norm ranging 0.59 – 0.65, ensuring effective anonymization.

## INTERNSHIP EXPERIENCE

### Zoom Video Communications, Inc.

Hangzhou, China | Dec. 2025-Present

*AI Product Intern, Platform R&D Department*

- Led requirements planning and delivery for Zoom Present AI features, coordinated product, design, frontend, backend, and QA teams to align on reviews and drive development and acceptance on schedule.
- Produced 4+ core PRDs and promoted review approval and implementation; established a standardized interaction model and defined error-handling rules to support launch evaluation and iteration.
- Conducted 5+ competitive analyses and benchmarking studies, built a multi-dimensional comparison framework, identified differentiation opportunities, and translated insights into product decisions.

### Alibaba Cloud, Lingyang Intelligence Technology Co., Ltd

Hangzhou, China | Jul. 2025-Sep. 2025

*Product Operation Intern, Dataphin Product R&D Department*

- Created 50+ English demos on Storylane covering Copilot and NL2SQL, built reusable templates with standardized scripts and storyboards, and published them across 6 channels such as Alibaba Cloud website and WeChat Mini Program.
- Developed a demo data dashboard to track views, traffic sources, retention, and conversions by channel and topic, and highlighted drop-off points and bottleneck pages as a reference for content selection and video pacing.
- Organized demo embed links by channel into an online and searchable library, and established naming and versioning rules to reduce retrieval time and improve reuse efficiency.
- Investigated data governance platforms (e.g., NetEase ShuFan and IBM), evaluated 12 metrics across functional fit, technical reliability, cost, and service sustainability, and contributed to product positioning and unique value proposition.

### Deloitte China Hangzhou Branch

Hangzhou, China | May 2025-Jul. 2025

*Data Platform Developer, Technology & Transformation*

- Participated in full backend development process, including requirements documentation, Axure prototyping, database design, API development, and Postman integration testing.
- Designed and optimized backend interfaces in Spring Boot and MyBatis, such as supplier quality management, customer information retrieval, and SAP CSB payroll, enhancing system maintainability.
- Built an API gateway information management module to synchronize API data from Alibaba Cloud, classify APIs by business centers, and track utilization rates for ongoing monitoring.
- Developed custom features on DingTalk using XXL-JOB, including data submission reminders, account deactivation notifications, and SMS verification.

## EXTRACURRICULAR ACTIVITIES

### IT Department, WKU Library | Assistant

Jun. 2023-Present

- Developed web crawlers to collect high-rated books (rating  $\geq 8$ ) from Douban and wrote data validation scripts to ensure correct book code formats and data accuracy.

### Department of Computer Science, WKU | Teaching Assistant

Jun. 2023-Dec. 2024

- Organized workshops for academic Q&A, assisted in grading coding assignments, and evaluating final projects.

### New Media Department, Wharf Poetry Club | Head

Jun. 2023-Sep. 2024

- Published original poetry and articles on a weekly basis and managed publicity for club events and activities.

## SKILLS & INTERESTS

- **Languages:** Chinese (Native); English (GRE: V: 160 + Q: 170 + AW: 4.0)
- **Computer Skills:** Java (4yrs); Python (3yrs); R; MySQL (3yrs); Linux; Visual Basic (7 yrs); Axure; PS
- **Interests:** Fitness; Short video creation (multiple videos >200K views, top video 29M views)