

Zehui Zhan (詹泽汇)

Agent Systems Center, Shanghai Artificial Intelligence Laboratory

Email: zhanzh6@mail2.sysu.edu.cn · Tel: +86 188-2413-0826 · Shanghai, China · Website: zehui.site

RESEARCH INTERESTS

AI for healthcare · generative models for physiological signals (ECG panorama synthesis, single-lead → 12-lead reconstruction) · unobtrusive vital-sign monitoring · AI agents for science

EDUCATION

Sep 2023 – Jun 2026 **M.Eng. in Biomedical Engineering (Data Mining)**
[Sun Yat-sen University](#)

Sep 2019 – Jul 2023 **B.Eng. in Biomedical Engineering (Medical Instruments)**
[Sun Yat-sen University](#)

RESEARCH & WORK EXPERIENCE

Jul 2026 – Present **Researcher, Agent Systems Center**
[Shanghai Artificial Intelligence Laboratory](#)
Building a scientific-research agent platform: scientific tool-graph construction, generation and quality screening of effective agent-trajectory data, and agent post-training.

Sep 2024 – Sep 2025 **Research Assistant, AI Thrust, Information Hub**
[The Hong Kong University of Science and Technology \(Guangzhou\)](#)
Multimodal temporal-signal processing and unobtrusive vital-sign monitoring.

Jul 2025 – Sep 2025 **AI Engineer Intern, ICT BG**
[Huawei Technologies](#)
GDE Mate — an AI agent analyzing code repositories with RAG: identifying file functions/dependencies and generating modification suggestions with sequence diagrams. Owned the sequence-diagram refresh API design & implementation and a URL-based repository-query feature.

Nov 2025 – Apr 2026 **Healthcare Research Intern**
[CICC Research Dept. \(Healthcare Group\)](#) · [Zhonggeng Fund \(Investment Research\)](#)
Industry research on medical devices and medical AI: industry analysis reports and financial models at CICC (Nov 2025 – Feb 2026); company research and reports at Zhonggeng Fund (Feb 2026 – Apr 2026).

SELECTED PROJECTS

- Semantic-aware ECG panorama modeling & generation (Nef-Net v2)** — NeRF-inspired implicit 3D representation with Transformers, fusing semantic and multi-view 2D modalities; three-stage training (pre-train / calibrate / fine-tune). ≈6 dB PSNR gain over baselines in the wild at half the parameters. *ICLR 2026*.
- Multi-view reconstruction of variable-duration time series** — UNet-based conditional GAN: cycle segmentation for memory efficiency, high-dimensional multi-view generation, end-to-end single-cycle aggregation. *BSPC 2024*.
- Multi-agent cloud-edge system for cross-scenario cardiac rehabilitation** (National Key R&D Program of China) — noise-characteristic filtering and generative multi-view probabilistic reconstruction of armband ECG signals (~1–50 μV).
- Undergraduate** — resonant-frequency biofeedback breathing trainer (rated Excellent); edge-AI platform for abnormal-signal detection (F1 = 0.9, National 2nd Prize); emotion decoding from high-density surface

electrophysiology.

PUBLICATIONS

Zehui Zhan, Yaojun Hu, Jintai Chen, et al. Nef-Net v2: Adapting Electrocardio Panorama in the Wild. *International Conference on Learning Representations (ICLR)*, 2026.

Zehui Zhan, Hao Chen, Jintai Chen. On the Panoramic Electrocardiogram of Artificial Intelligence: Ideas, Methods, and Applications. *Journal of Electrocardiology*, 2025.

Zehui Zhan, Jintai Chen, Kaixin Li, et al. Conditional generative adversarial network driven variable-duration single-lead to 12-lead electrocardiogram reconstruction. *Biomedical Signal Processing and Control*, 95: 106377, 2024.

Jingyi Zhang, Xinpeng Zhang, **Zehui Zhan**, et al. Anatomy-embedded Multimodal Segmentation Emulating Real-World Medical Imaging Process. *IEEE Transactions on Medical Imaging (under review)*.

Jingyi Chen, Yu Zheng, Yifan Liang, **Zehui Zhan**, et al. Edge2Analysis: A Novel AIoT Platform for Atrial Fibrillation Recognition and Detection. *IEEE Journal of Biomedical and Health Informatics*, 26(12): 5772–5782, 2022.

HONORS & AWARDS

- First-Class Scholarship for Outstanding Students, Sun Yat-sen University (2024, 2026); Second-Class (2023)
- 2nd Prize, 10th National BME Innovation Design Competition, Graduate Track (2025)
- 2nd Prize, 6th National BME Innovation Design Competition, Undergraduate Track (2021)
- Outstanding Undergraduate Thesis, School of BME, Sun Yat-sen University (2023); Exam-exempt graduate admission (2023)
- 1st Prize, SYSU Software Innovation & Entrepreneurship Competition (2019); Academic Innovation Scholarship (2020)

SKILLS

Programming	Python, C, Java, MATLAB, Assembly; PyTorch, TensorFlow
Tools	Linux, Git, SolidWorks
Languages	Mandarin (native), English (IELTS 6.5), Cantonese, Hakka, Teochew