Gemini

Bridging the Domain Gap

A Deep Research Report on Strategic ECG Data Augmentation for Real-World Viability

The Challenge: From Lab to Reality

The development of high-performance deep learning models for ECG classification faces a critical hurdle: the "domain gap." While vast public datasets exist, they represent idealized, low-noise clinical environments. Our prototype ECG shirt, designed for ambulatory use, inevitably produces signals with more noise and electrode placement variability.

This report outlines the strategy to synthetically adapt clean data to mimic real-world conditions, ensuring our model is robust, reliable, and ready for deployment.

PUBLICLY AVAILABLE DATA

100,000+

12-Lead ECG Patient Records

Clean Lab Data ≠ **Noisy Prototype Data**

Deconstructing Prototype Imperfections