

Real-Time Hemodialysis for Heart Failure Prediction

One of Aetina's partners is committed to improving outcomes for kidney dialysis with an AI model that predicts heart failure risk in real time during dialysis procedures in hospitals. The AI analytics tool can display key factors for risk prediction on a dashboard for clinicians, detect abnormal patterns in the streaming data from dialysis machines, and instantly alert doctors and nursing staff to intervene.

To achieve real-time AI inference using streaming data over the course of a four-hour dialysis session, the hospital adapted Aetina's DeviceEdge AIE-CN11/21 powered by NVIDIA Jetson Xavier™ NX, which packs the power to process up to 21 trillion operations per second (TOPS) in a compact module that consumes only 10 watts. By shifting processing to the edge, The AIE-CN11/21 helps reduce the computation workload on main servers, freeing up resources to support other high-quality medical models.

Benefits

- Fanless design, capable of running AI inference tasks without overheating and causing noise
- Energy-efficient, while providing sufficient AI performance
- Small-size, suitable for limited space

Results

- Cost-effectively runs the real-time prediction by shifting the AI inference process to the edge
- Greatly reducing server workloads, free up the computer resources of the main servers

