



PI : Prof. /Dr. Chien-Chang Lee
Department of Emergency Medicine

Experience:

Chief Information Officer (CIO) at the Ministry of Health and Welfare (MOHW) of Taiwan
(2024 - present)

Deputy Director for the Center of Intelligent Healthcare at National Taiwan University (NTU) Hospital (2024 - present)

Professor of Emergency Medicine at National Taiwan University (NTU) Hospital (2021 - present)

Market Needs:

The global patient monitoring market is projected to reach \$350 billion by 2025, fueled by the growth of smart healthcare post-COVID-19, an aging population, and rising chronic illnesses. Integrating vital sign prediction technology improves early warning capabilities, reducing risks from adverse events. TFT provides personalized predictions based on individual medical histories, enhancing care for chronic patients, the elderly, and ICU populations, which can be applied in hospital ICUs, rehabilitation centers, and long-term care facilities.

Our Technology:

This invention employs a Temporal Fusion Transformer (TFT) to predict vital signs using historical data and individual medical records. Its core technology enables multi-horizon forecasting in time series, allowing the TFT model to generate dynamic predictions. By effectively forecasting future vital sign trajectories, TFT can empower healthcare doctors to intervene proactively.

Strength:

The TFT, combined with multimodal data, enables accurate vital sign predictions and facilitates timely interventions to reduce the risk of adverse events. This technology incorporates patients' historical vital signs, comorbidities, and medical records to generate personalized predictions. It can be utilized in hospital ICUs, rehabilitation centers, and long-term care facilities, and even extended to home remote monitoring, improving patient safety in diverse environments.

Competing Products:

Traditional patient monitoring systems, machine learning-based vital sign prediction systems, smart wearable devices, etc.

Intellectual Properties: This technology has been patented in the Republic of China (Taiwan) under application number NO. 113122221.

Contact (do not need to fill out):

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