Continual Learning Overview

🔄 Continual Learning

The ability to continuously learn new data and knowledge while maintaining previously learned content

🏥 Need for Medical AI

Medical knowledge and clinical protocols continuously change, and AI models must adapt accordingly
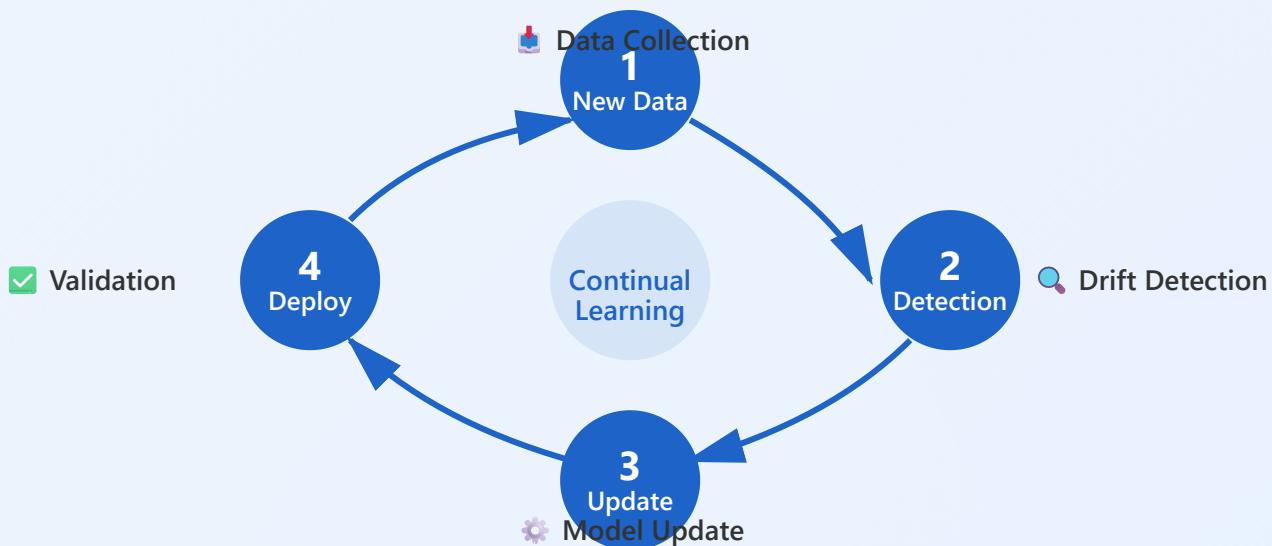
📊 Concept Drift

The phenomenon where data distribution and medical concepts change over time

⚡ Real-time Adaptation

Model update mechanism that quickly adapts to new diseases, treatments, and patient characteristics

🔄 Medical Knowledge Update Cycle

📥 Data Collection

1
New Data

☑ Validation

4
Deploy

Continual
Learning

2
Detection

🔍 Drift Detection

3
Update

⚙ Model Update

⏱ **Knowledge Evolution Timeline**

Initial Training

New Disease

Treatment Change

Continuous Improvement

Base Model Training

COVID-19, etc.

Protocol Update

Performance Optimization