Emerging Technologies Overview: Medical AI Potential

Mixture of Experts (MoE)

Specialized sub-networks for different medical domains

Efficient scaling with sparse activation

Developing

Long-Context Models

Process entire patient histories (100K+ tokens)

Comprehensive longitudinal analysis

Developing

Graph Transformers

Model complex medical relationships

Disease networks and interactions

Emerging

State Space Models

Efficient temporal sequence processing

Linear complexity for long sequences

Emerging

Neural ODEs

Continuous-time modeling of disease progression

Physiological dynamics simulation

Emerging

Quantum ML

Exponential speedup for specific problems

Drug discovery optimization

Early Stage

🎯 Medical AI Potential

These emerging architectures promise to enhance diagnostic accuracy, enable personalized treatment, and revolutionize healthcare delivery through more efficient and capable AI systems