Transformer-based DQN Architecture

Input Layer (Patient Data) 10 Features

Patient vitals, subjective symptoms, test results

Transformer Encoder (3 Layers)

Multi-head attention with positional encoding

Attention Mechanism

Weighted feature aggregation

Action advantage estimation

Advantage Stream

State value estimation

Value Stream

Q-Values Output (10 Actions)

$Q(s,a) = V(s) + A(s,a) - mean(A)$