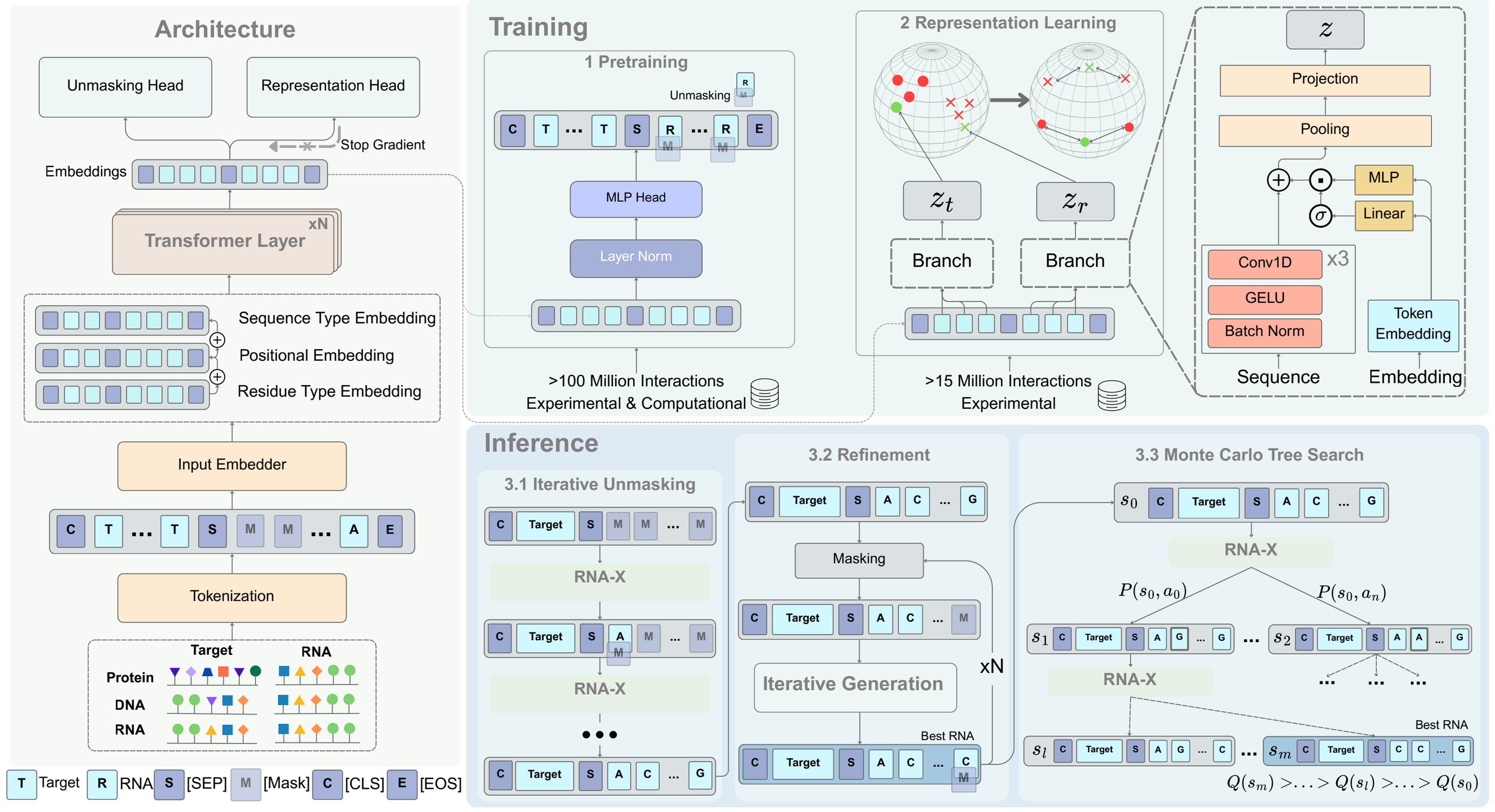
Architecture
Unmasking Head
Representation Head
Stop Gradient
Embeddings
Transformer Layer
xN
Sequence Type Embedding
Positional Embedding
Residue Type Embedding
Input Embedder
Tokenization
Target
RNA
Protein
DNA
RNA
T Target
R RNA
S [SEP]
M [Mask]
C [CLS]
E [EOS]
Training
1 Pretraining
Unmasking
MLP Head
Layer Norm
>100 Million Interactions
Experimental & Computational
2 Representation Learning
Branch
Branch
>15 Million Interactions
Experimental
Projection
Pooling
MLP
Linear
Conv1D
x3
GELU
Batch Norm
Token Embedding
Sequence
Embedding
Inference
3.1 Iterative Unmasking
RNA-X
3.2 Refinement
Masking
Iterative Generation
xN
Best RNA
3.3 Monte Carlo Tree Search
RNA-X
Best RNA