A

Gene Expression
Chromatin Accesibility

B

t=... t=Δt t=0

0 weeks 1 week 2 weeks

C

Altered Disease Trajectory
Continual Expression Change
Cell Differentiation

Control Disease

D

$x_1, x_2, ..., x_n$ | $v_1, v_2, ..., v_n$ | $m_1, m_2, ..., m_n$

$x_1, x_2, ..., x_n$ | $v_1, v_2, ..., v_n$ | $m_1, m_2, ..., m_n$ | Cell Embedding

Neighbor Embedding

Future Work

Cross-Modal Imputation

DNA Methylation

Chromosome Contact Profile

Environment

t=0 t=Δt t=...

Runtime Flow

Position
Velocity
Modality X

Position
Velocity
Modality X

Policy

Updated Velocity

Policy Architecture

Step 1 Self and Node Embeddings

(x, y) → SE

(x, y) + SE → NE

Step 2 Residual Self-Attention

SE → SE + → ST

Step 3 Action Response

ST

+ →

Applications

Multimodal Integration

Gene Expression
Chromatin Accessibility
DNA Methylation

Trajectory Analysis

Gene Expression
Chromatin Accessibility
DNA Methylation

Cross-Modal Imputation

DNA Methylation

Chromosome Contact Profile

Assets

asdf asdf

Gene Expression
Chromatin Accessibility
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Chromosome Contact Profile