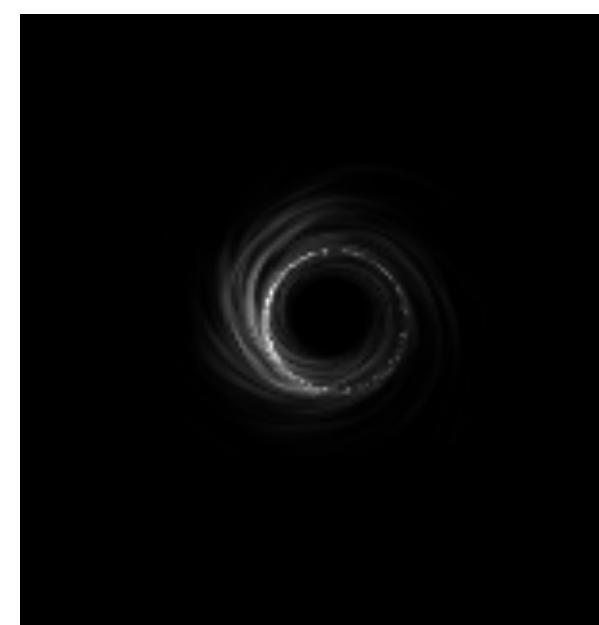


# **Black Hole Parameter Prediction**

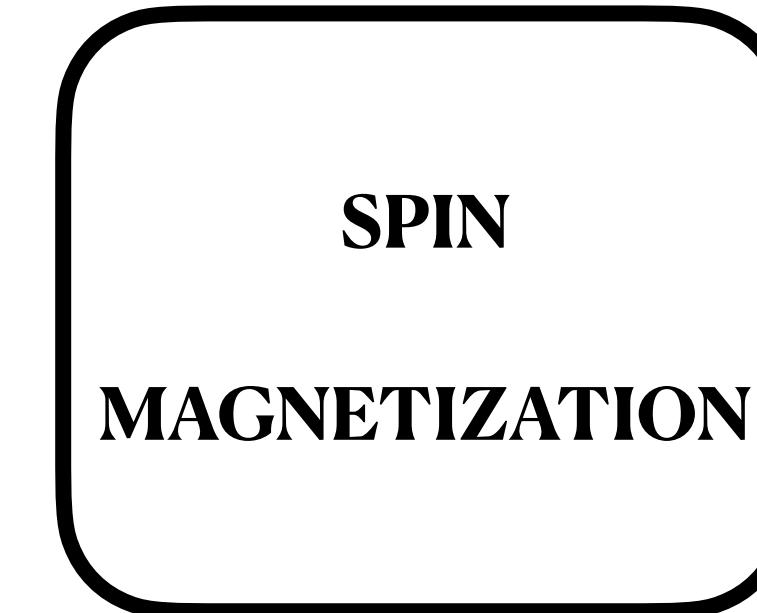
Master's Thesis  
Harvard University

Varshini Reddy  
17/2/23

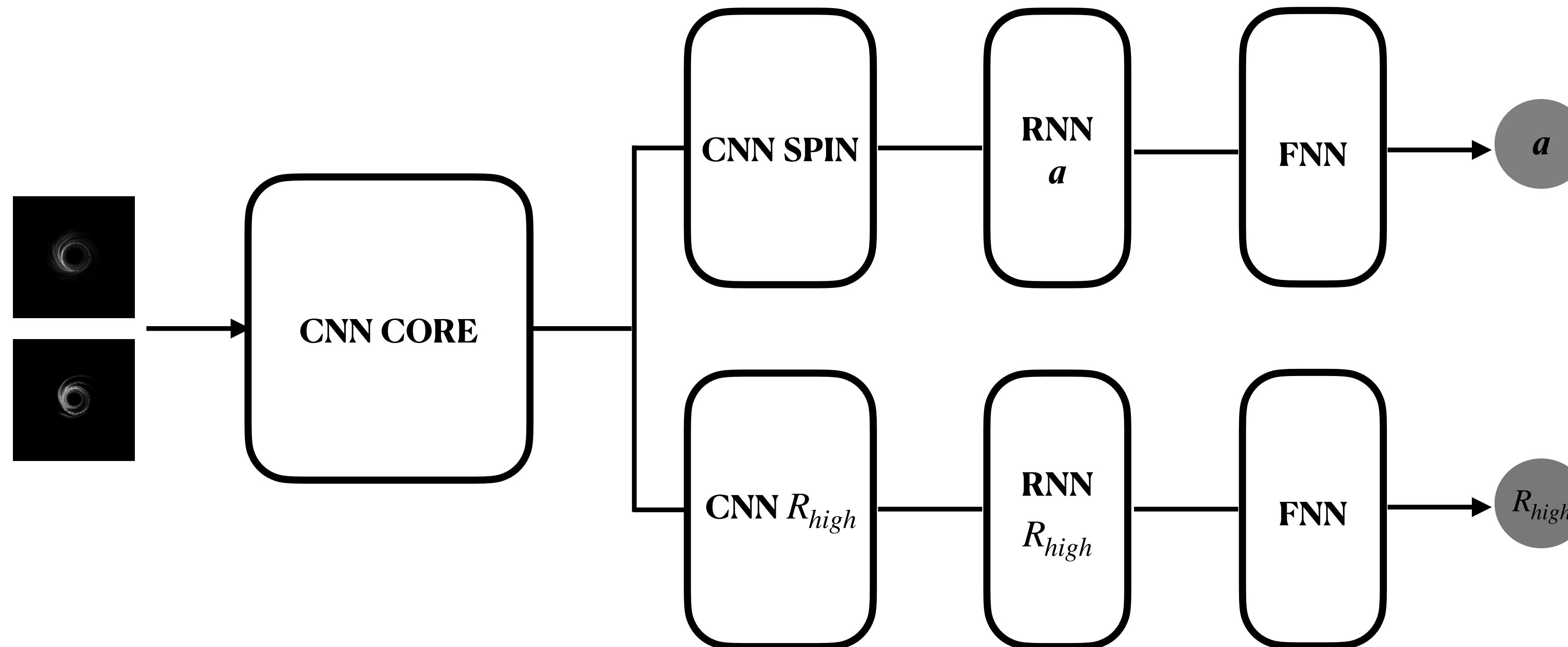
# Problem Setup

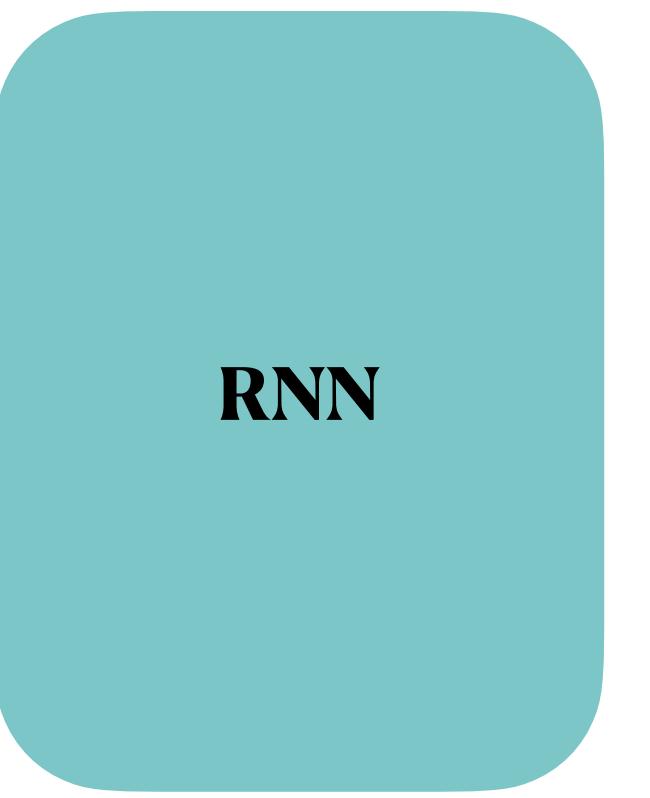


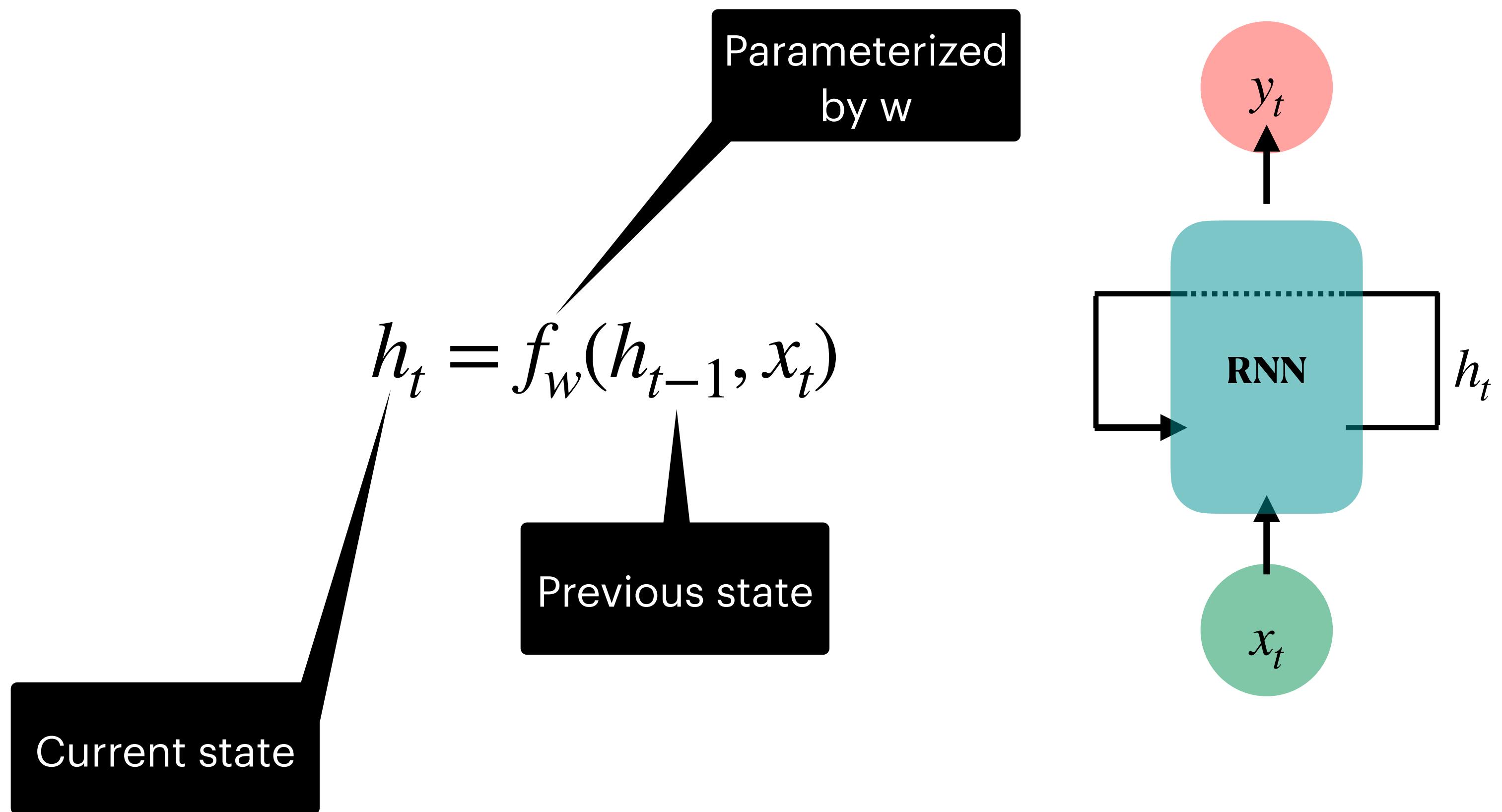
**BLACK HOLE IMAGES**

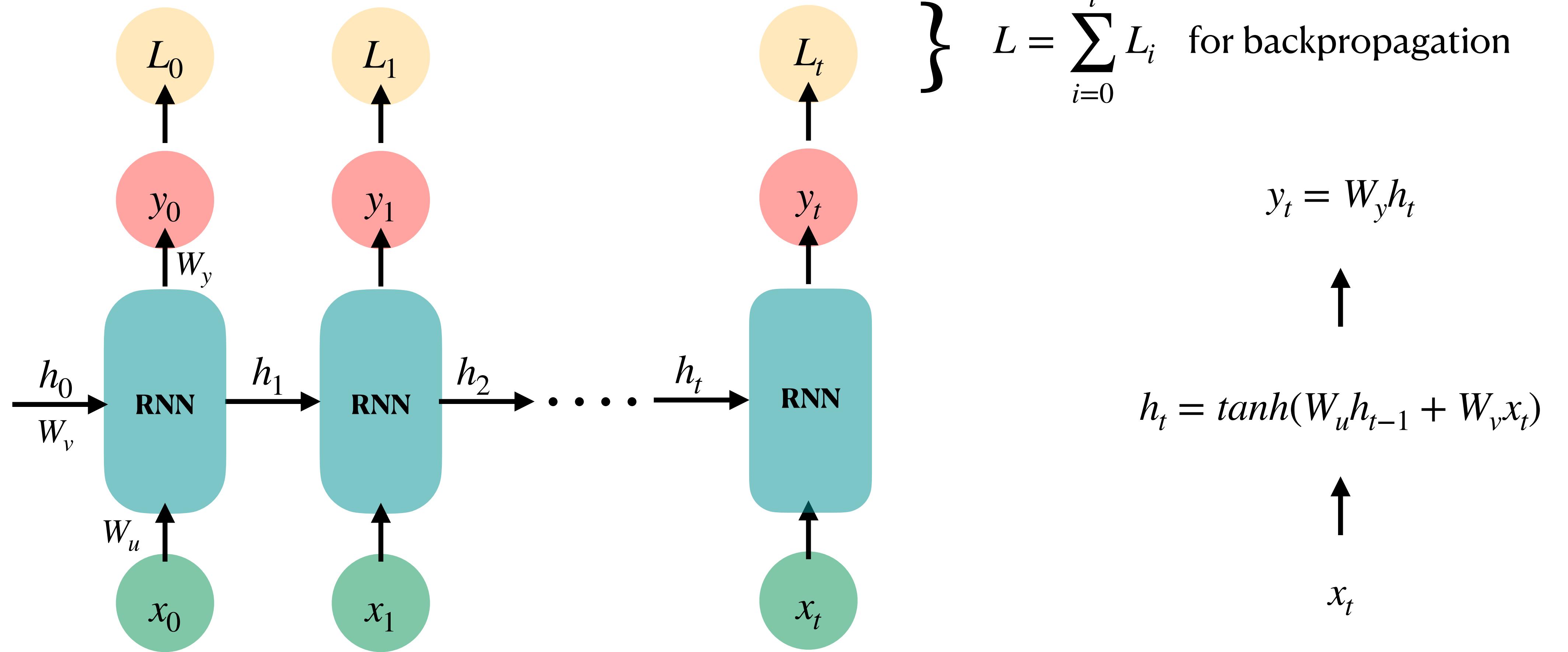


# Tao's Work

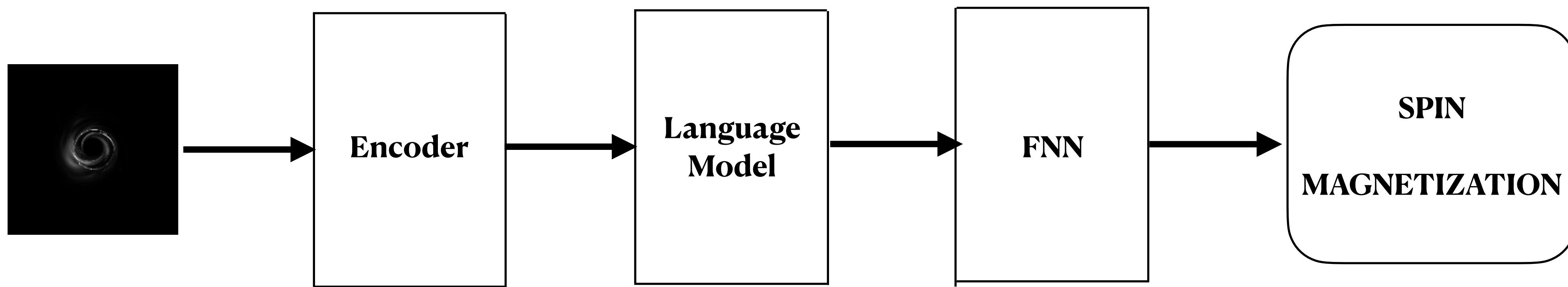




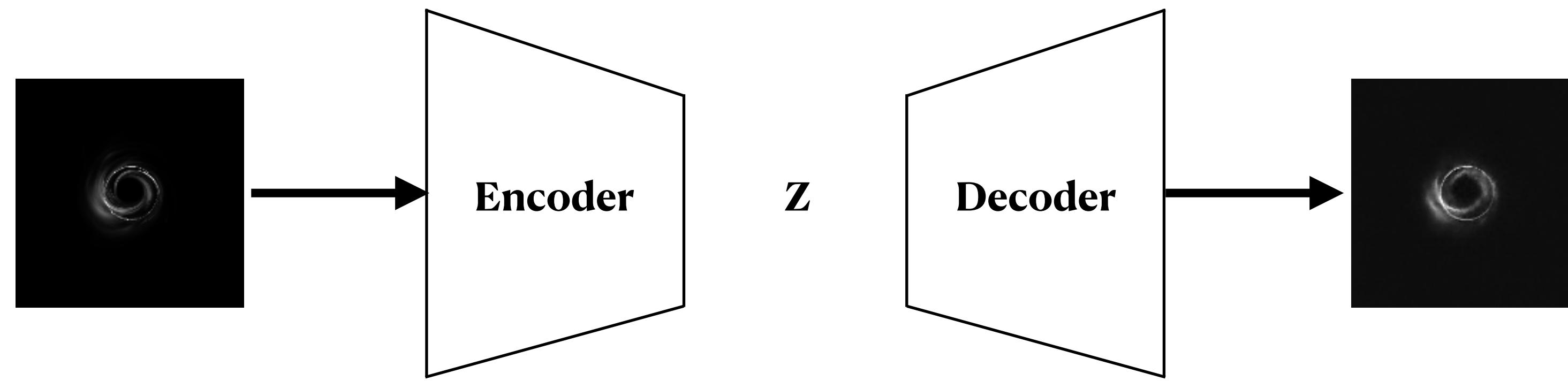




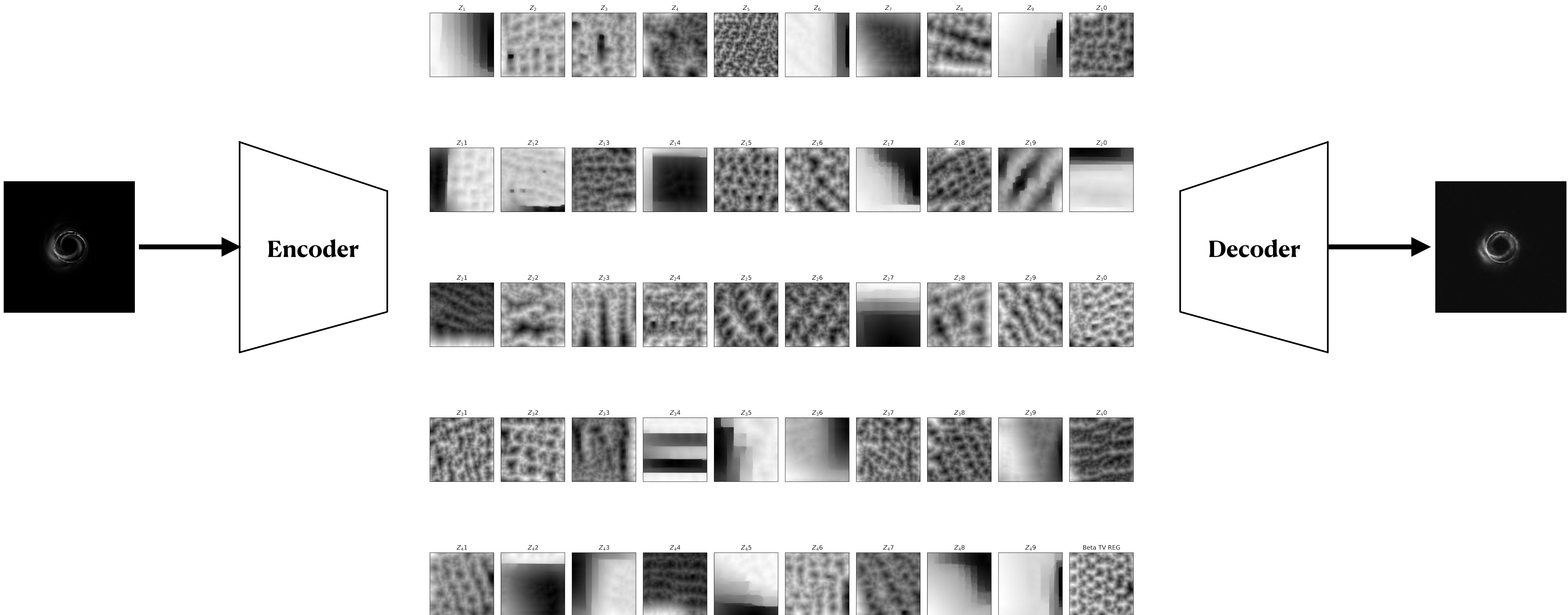
# Current Work



# Auto-Encoder



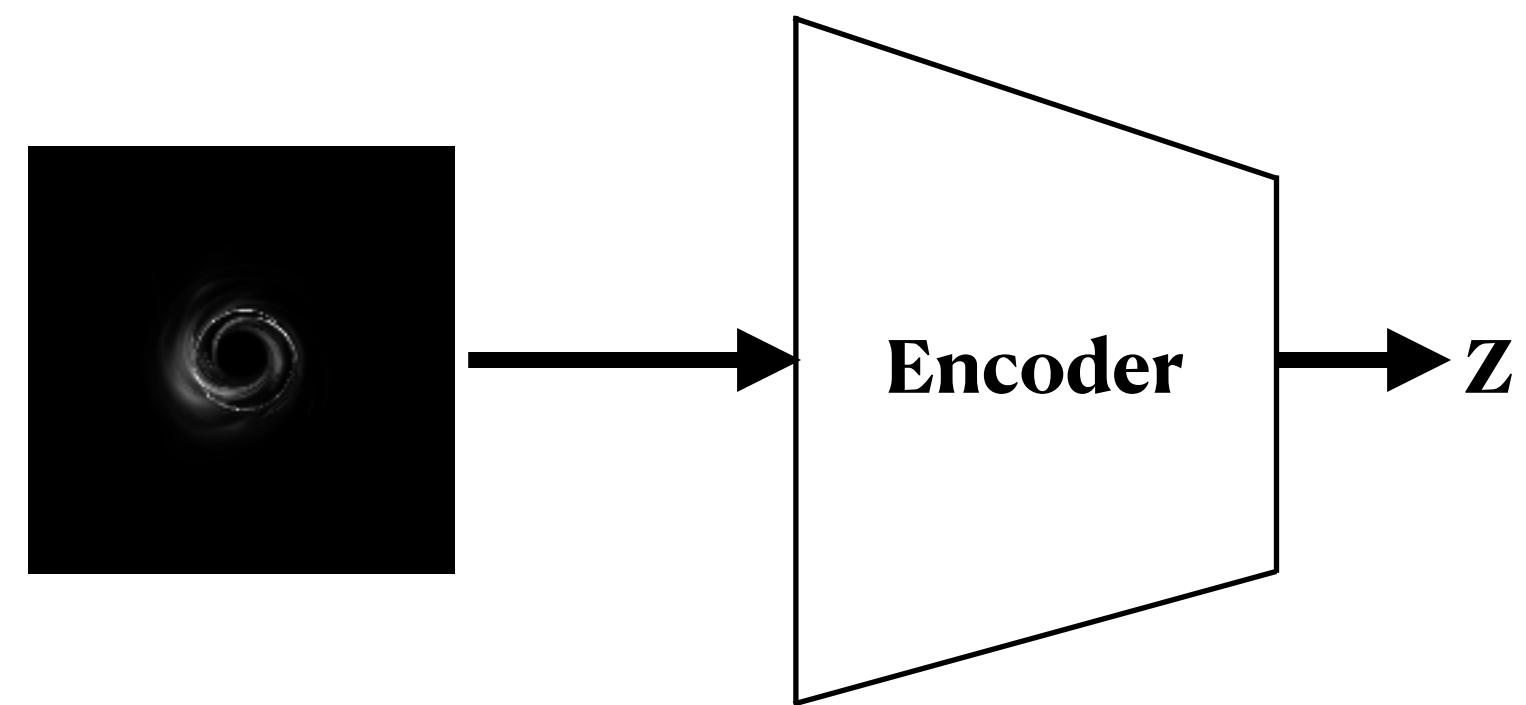
# Auto-Encoder



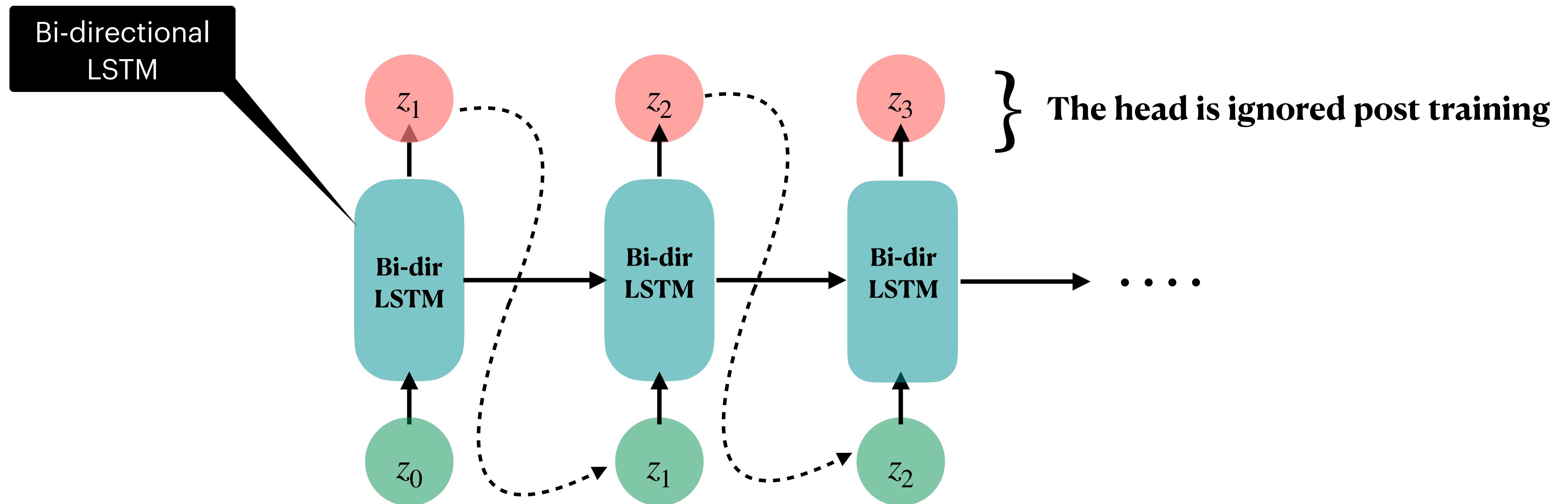
Activation Maximization  
9

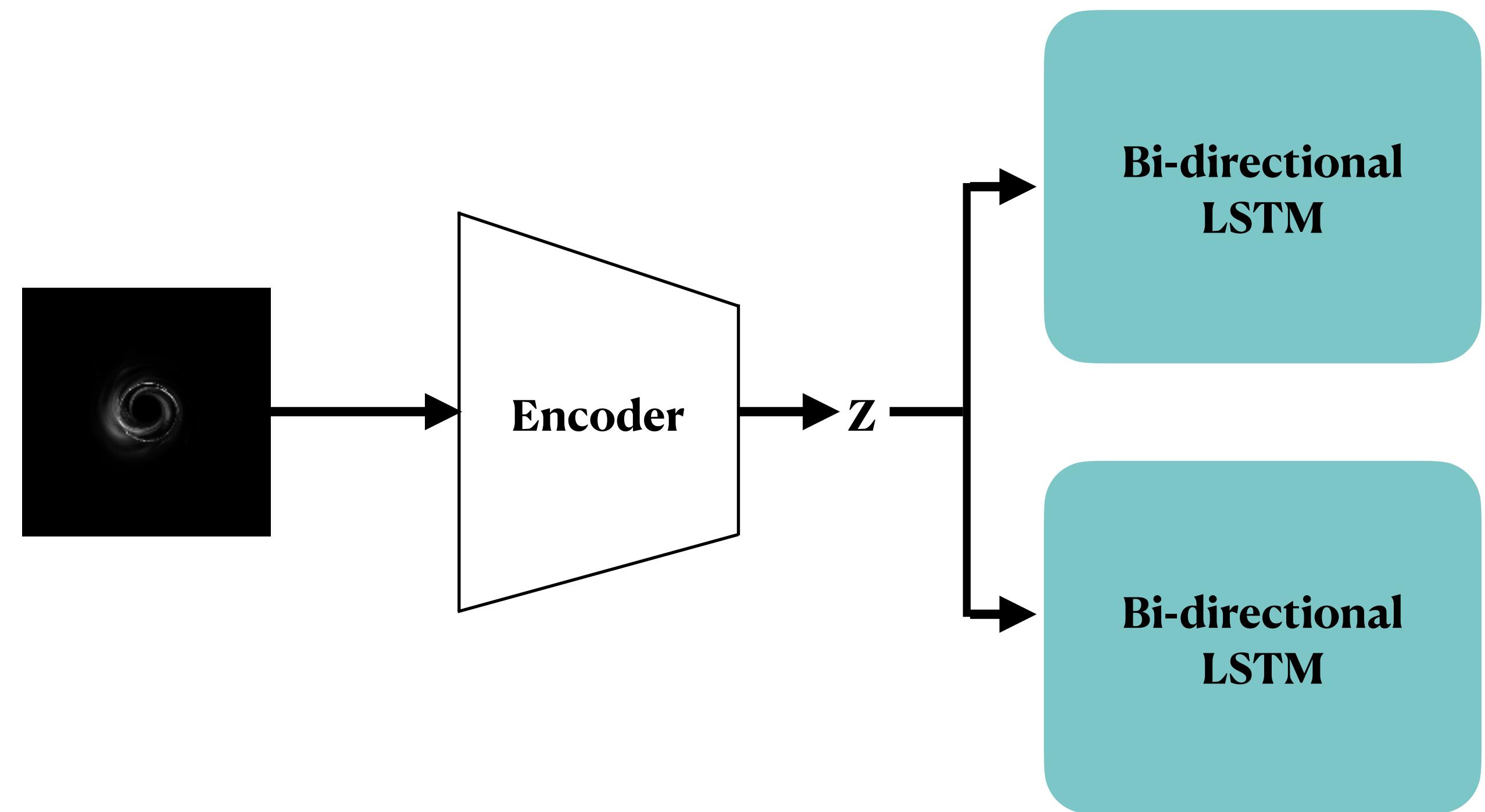
CURRENT WORK

# Auto-Encoder

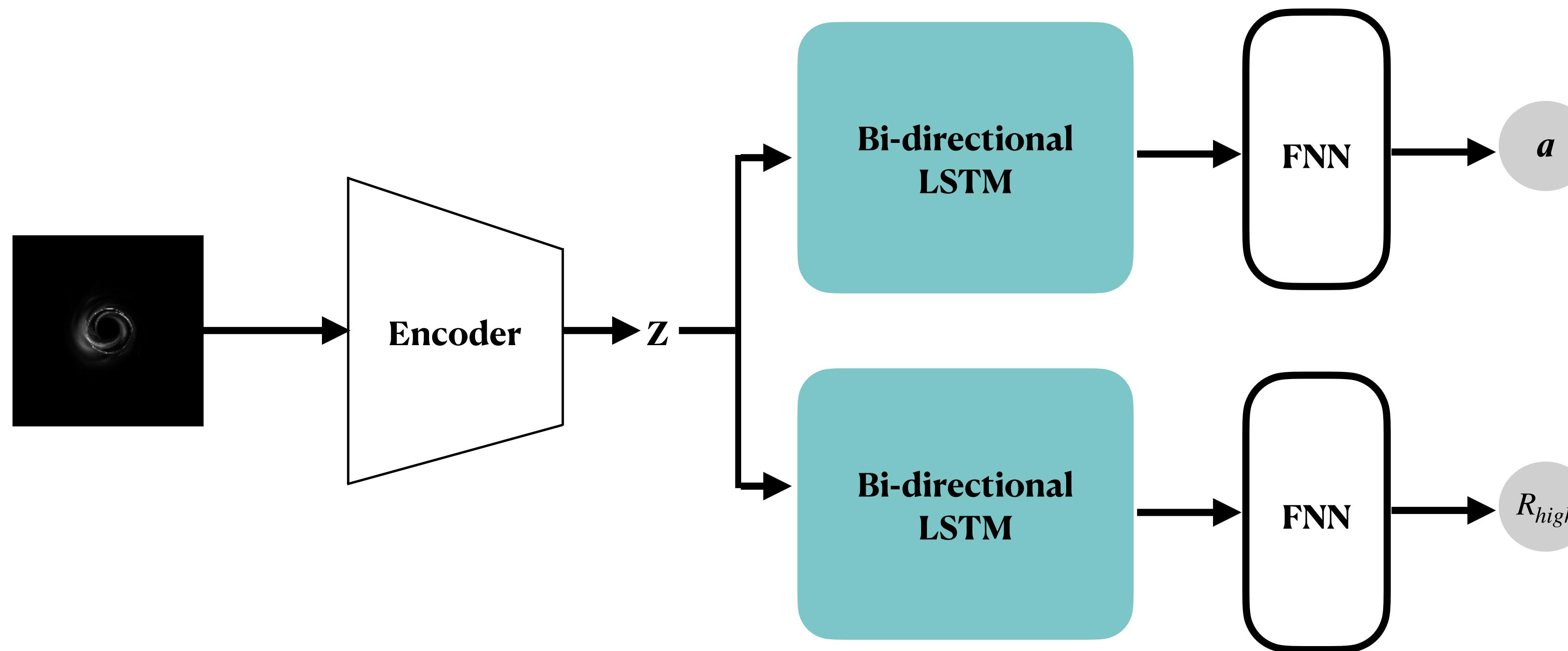


# Language Model





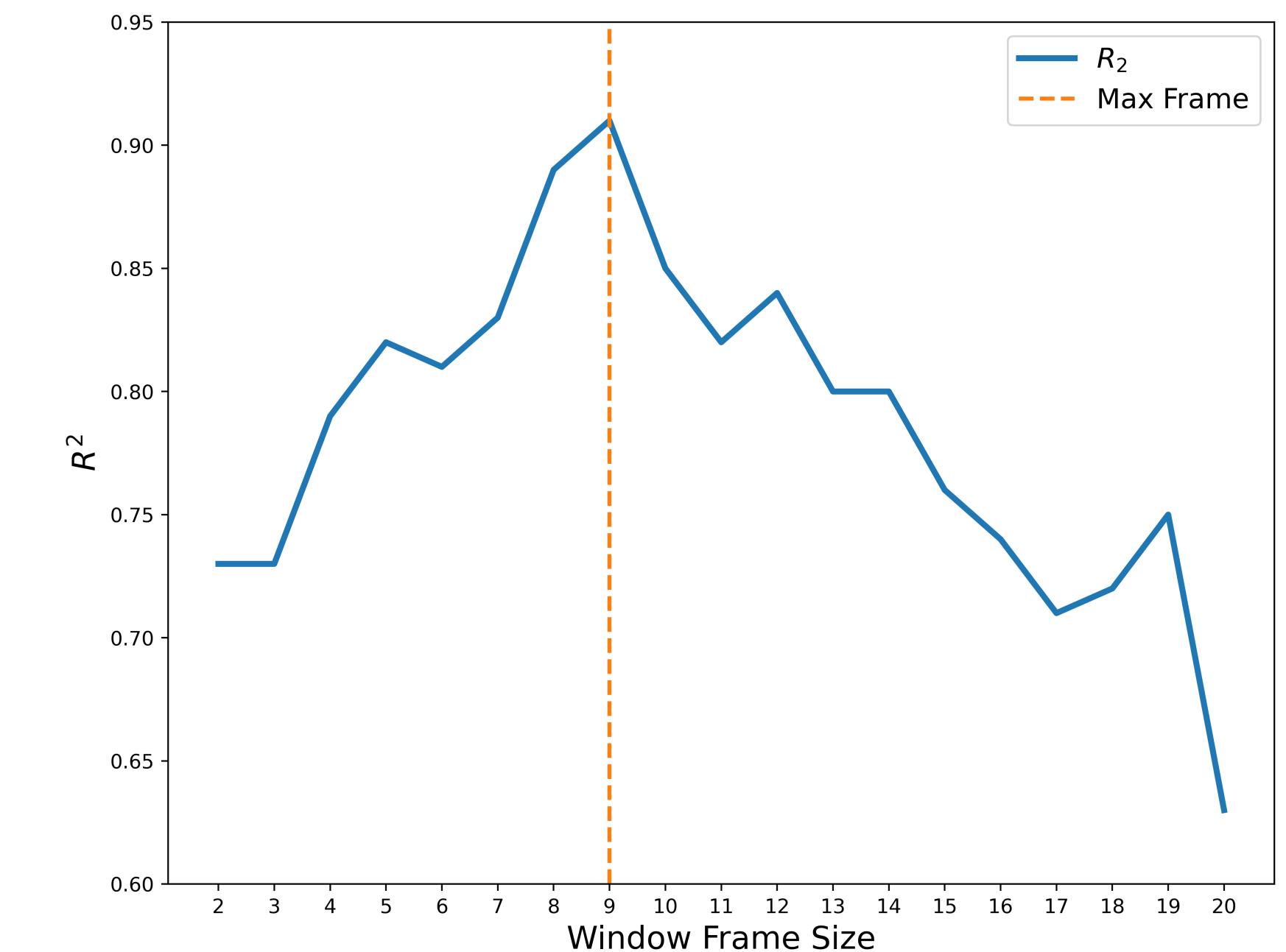
# Overall Model Architecture



# Results

## Results for window size 9

Category	R squared - Mixed Validation	R squared - Leave one out	Fine-tuning
$a$	0.96	0.94	Yes
$R$	0.97	0.96	Yes
Average	0.97	0.94	Yes
$a$	0.93	0.91	No
$R$	0.90	0.89	No
Average	0.91	0.90	No



# **Thank You**