

HYPERPARAMETERS:

random_string: 0
optimizer: Adam
noise_amplitude: 0.1
clip_gradients: True
max_gradient_norm: 10
regularization: None
regularization_lambda: 0
batch_size: 64
note_error_every_steps: 50
train_for_steps: 5000
save_network_every_steps: 5000
learning_rate: 0.0001
random_seed: 41564428

TASK PARAMETERS:

task_name: 2DIR1O
input_direction_units: 100
delay0_from: 10
delay0_to: 20
delay1_from: 10
delay1_to: 90
delay2_from: 120
delay2_to: 160
show_direction_for: 10
show_cue_for: 100
dim_input: 101
dim_output: 2
distractor_probability: 1.0

MODEL PARAMETERS:

model_name: hdratioCTRNN
dim_input: 101
dim_output: 2
dim_recurrent: 100
tau: 10
nonlinearity: retanh
input_bias: True
output_bias: False
connectivity_cos_exponent: 1

ADDITIONAL COMMENTS:

Training criterion: MSE loss
Noise added at every timestep of the trial
Inputs NOT discretized
Output sin/cos
Simple ring attractor network, training is on top-level parameters + output

NETWORK PERFORMANCE:

O1: mse= 0.0070, error= 6.65 deg (with noise), mse= 0.0030, error= 4.43 deg (no noise)
O2: mse= 0.0000, error= 0.00 deg (with noise), mse= 0.0000, error= 0.00 deg (no noise)