

A Fine-grained Fuzzy-PID Controller-guided Latent Factor Model for High-Dimensional Incomplete Data Representation: Supplementary File

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I. INTRODUCTION

THIS is the supplementary file for paper entitled “A Fine-grained Fuzzy-PID Controller-guided Latent Factor Model for High-Dimensional Incomplete Data Representation”. It provides Table S1 for hyperparameter settings of each competitor.

II. SUPPLEMENTARY HYPERPARAMETER SETTINGS

TABLE S1
HYPERPARAMETER SETTINGS FOR COMPETITORS

Abbr.	M2	M3	M4	M5	M6	M7	M8	M9	M10	
D1	$\gamma=2e-2$, $K_p=5e-1$, $K_D=5e-4$	$\lambda=7e-1$, $K_p=5e-5$, $K_D=5e-5$	$\gamma=2e-2$, $\lambda=7e-1$	$\gamma=2e-2$, $\lambda=7e-1$	$\gamma=9e-4$, $\lambda=9e-1$, $\beta=9e-1$	$\gamma=9e-4$, $\lambda=9e-1$, $\beta=9e-1$	$\gamma=9e-1$, $\lambda=8e-1$, $\epsilon=1e-8$	$\gamma=8e-3$, $\lambda=7e-1$, $\beta=9e-1$, $\epsilon=1e-8$	$\gamma=3e-2$, $\lambda=9e-1$, $\beta_1=9e-1$, $\beta_2=9.99e-1$, $\epsilon=1e-8$	$\gamma=5e-2$, $\lambda=8e-1$, $\beta_1=9e-1$, $\beta_2=9.99e-1$, $\epsilon=1e-8$
D2	$\gamma=3e-2$, $K_p=5e-1$, $K_D=5e-2$	$\lambda=4e-2$, $K_p=5e-5$, $K_D=5e-3$	$\gamma=3e-2$, $\lambda=4e-2$	$\gamma=3e-2$, $\lambda=4e-2$	$\gamma=3e-3$, $\lambda=4e-2$, $\beta=9e-1$	$\gamma=3e-3$, $\lambda=4e-2$, $\beta=9e-1$	$\gamma=8e-2$, $\lambda=4e-2$, $\epsilon=1e-8$	$\gamma=1e-3$, $\lambda=4e-2$, $\beta=9e-1$, $\epsilon=1e-8$	$\gamma=9e-3$, $\lambda=7e-2$, $\beta_1=9e-1$, $\beta_2=9.99e-1$, $\epsilon=1e-8$	$\gamma=6e-3$, $\lambda=4e-2$, $\beta_1=9e-1$, $\beta_2=9.99e-1$, $\epsilon=1e-8$
D3	$\gamma=8e-3$, $K_p=5e-1$, $K_D=5e-4$	$\lambda=3e-1$, $K_p=5e-4$, $K_D=5e-4$	$\gamma=8e-3$, $\lambda=3e-1$	$\gamma=8e-3$, $\lambda=3e-1$	$\gamma=9e-4$, $\lambda=3e-1$, $\beta=9e-1$	$\gamma=9e-4$, $\lambda=3e-1$, $\beta=9e-1$	$\gamma=1e-1$, $\lambda=3e-1$, $\epsilon=1e-8$	$\gamma=4e-3$, $\lambda=4e-2$, $\beta=9e-1$, $\epsilon=1e-8$	$\gamma=7e-3$, $\lambda=3e-1$, $\beta_1=9e-1$, $\beta_2=9.99e-1$, $\epsilon=1e-8$	$\gamma=9e-3$, $\lambda=3e-1$, $\beta_1=9e-1$, $\beta_2=9.99e-1$, $\epsilon=1e-8$
D4	$\gamma=2e-2$, $K_p=5e-1$, $K_D=5e-1$	$\lambda=9e-2$, $K_p=5e-4$, $K_D=5e-4$	$\gamma=2e-2$, $\lambda=9e-2$	$\gamma=2e-2$, $\lambda=9e-2$	$\gamma=2e-3$, $\lambda=9e-2$, $\beta=9e-1$	$\gamma=2e-3$, $\lambda=9e-2$, $\beta=9e-1$	$\gamma=5e-2$, $\lambda=3e-1$, $\epsilon=1e-8$	$\gamma=5e-3$, $\lambda=2e-1$, $\beta=9e-1$, $\epsilon=1e-8$	$\gamma=8e-3$, $\lambda=3e-1$, $\beta_1=9e-1$, $\beta_2=9.99e-1$, $\epsilon=1e-8$	$\gamma=8e-3$, $\lambda=3e-1$, $\beta_1=9e-1$, $\beta_2=9.99e-1$, $\epsilon=1e-8$
D5	$\gamma=2e-2$, $K_p=5e-1$, $K_D=5e-1$	$\lambda=8e-1$, $K_p=5e-4$, $K_D=5e-4$	$\gamma=2e-2$, $\lambda=8e-1$	$\gamma=2e-2$, $\lambda=8e-1$	$\gamma=9e-4$, $\lambda=9e-1$, $\beta=9e-1$	$\gamma=9e-4$, $\lambda=9e-1$, $\beta=9e-1$	$\gamma=4e-1$, $\lambda=6e-1$, $\epsilon=1e-8$	$\gamma=9e-3$, $\lambda=8e-1$, $\beta=9e-1$, $\epsilon=1e-8$	$\gamma=2e-2$, $\lambda=9e-1$, $\beta_1=9e-1$, $\beta_2=9.99e-1$, $\epsilon=1e-8$	$\gamma=4e-2$, $\lambda=9e-1$, $\beta_1=9e-1$, $\beta_2=9.99e-1$, $\epsilon=1e-8$
D6	$\gamma=8e-3$, $K_p=5e-1$, $K_D=5e-5$	$\lambda=5e-2$, $K_p=5e-3$, $K_D=5e-4$	$\gamma=8e-3$, $\lambda=5e-2$	$\gamma=8e-3$, $\lambda=5e-2$	$\gamma=5e-4$, $\lambda=9e-2$, $\beta=9e-1$	$\gamma=9e-4$, $\lambda=6e-2$, $\beta=9e-1$	$\gamma=3e-2$, $\lambda=1e-2$, $\epsilon=1e-8$	$\gamma=9e-4$, $\lambda=6e-2$, $\beta=9e-1$, $\epsilon=1e-8$	$\gamma=8e-3$, $\lambda=5e-2$, $\beta_1=9e-1$, $\beta_2=9.99e-1$, $\epsilon=1e-8$	$\gamma=9e-3$, $\lambda=6e-2$, $\beta_1=9e-1$, $\beta_2=9.99e-1$, $\epsilon=1e-8$