Neural Fourier Transform

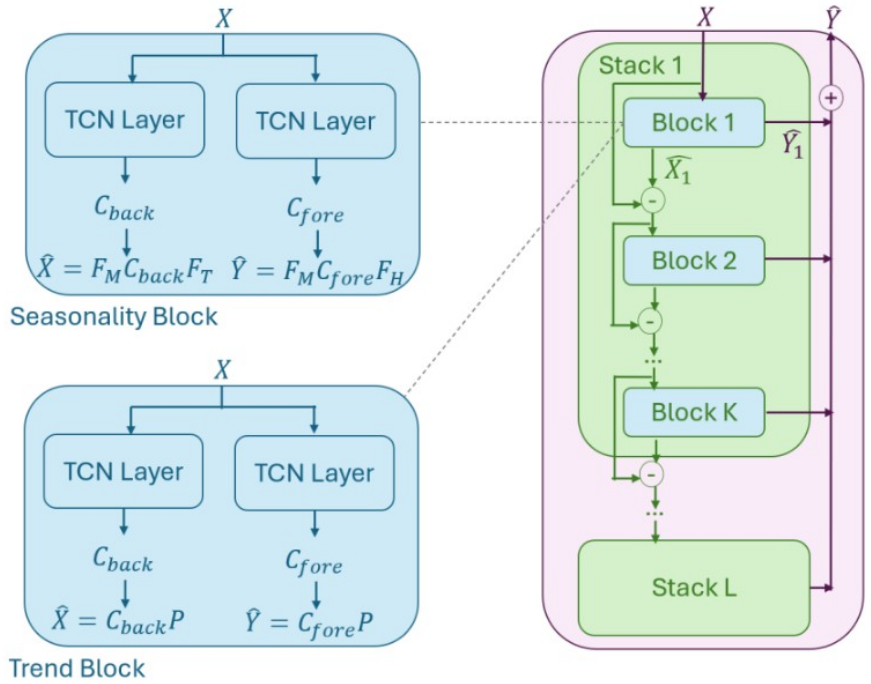
NFT

TMLR 2026

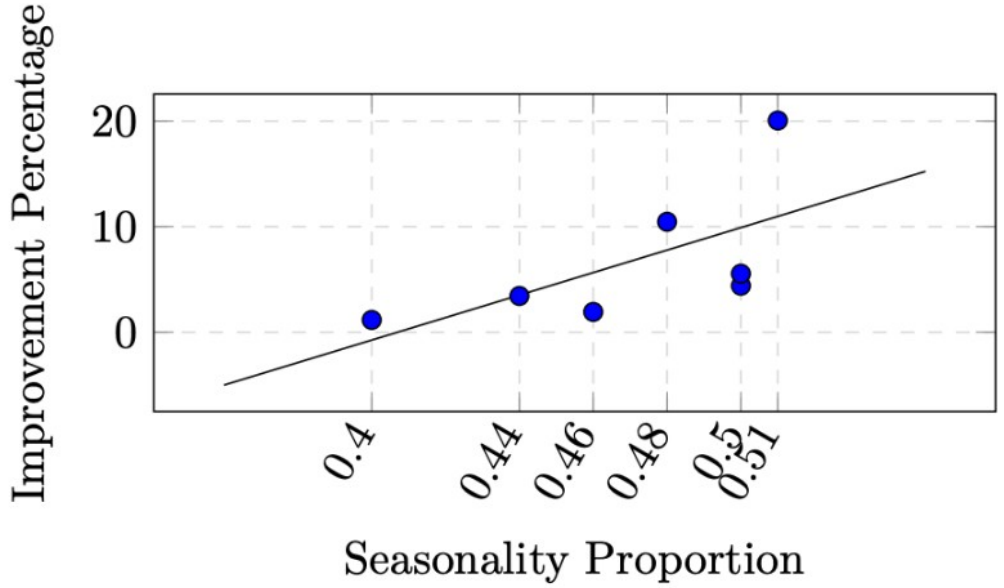
TCNs predict joint 2D Fourier coefficients across time and variables; polynomial blocks model trends

MODEL ARCHITECTURE

Fourier seasonality · polynomial trend · residual backcasting



SEASONALITY & ACCURACY



Higher seasonal proportion is associated with larger MSE gains.

AVERAGE MSE IMPROVEMENT vs. BEST BASELINE

20.05%	10.46%	5.54%	4.40%	3.43%	1.92%	1.16%
ECG	Electricity	EEG	Traffic	ETTm1	Weather	Exchange

Noam Koren · Daniel Freedman · Kira Radinsky

7 datasets · 17 baselines · gains averaged across forecast horizons