SHAP analysis of Transformer-MDN-RV-IV ES 99% estimates High  $IV_{10-day}$  (1 day ago)  $IV_{10-dav}$  (2 days ago)  $IV_{10-dav}$  (3 days ago)  $IV_{30-dav}$  (1 day ago) Feature value  $RV_{1-min}^{-}$  (1 day ago)  $IV_{10-dav}$  (4 days ago)  $RV_{5-min}$  (1 day ago)  $RV_{1-min}^+$  (1 day ago)  $RV_{5-min}^-$  (1 day ago)  $RQ_{5-min}$  (1 day ago) Low -0.010-0.0050.000 0.005 0.010 0.015 SHAP value (impact on model output)