Appendix H

Unfolded Results of Stability Evaluation on Event Logs

H.1 BPIC2012

H.1.1 XGBoost

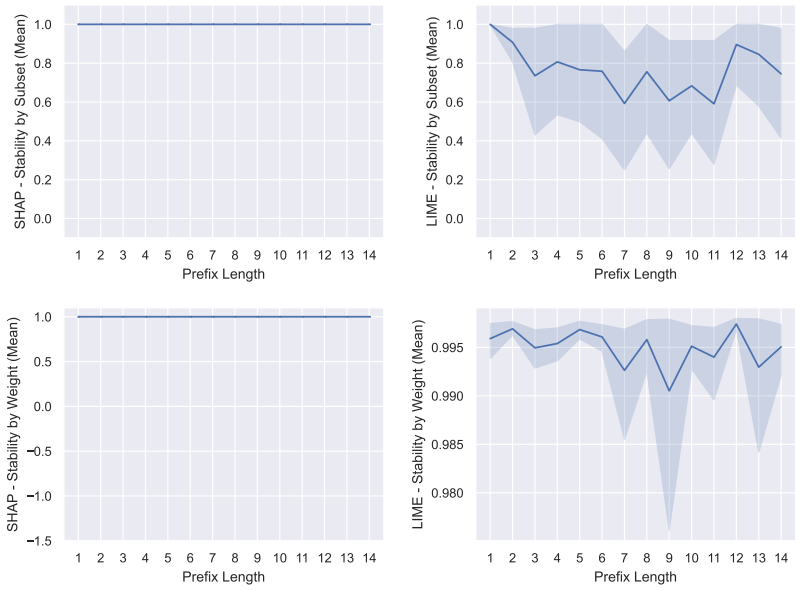

Figure H.1: Stability at each prefix length of SHAP and LIME explanations using BPIC2012 with single bucketing and aggregate encoding. Stability does not appear to be related to prefix length.

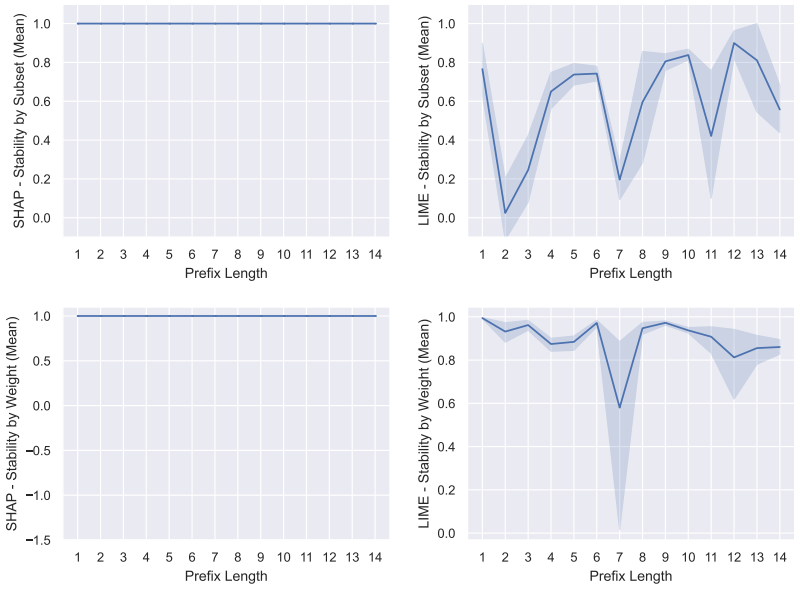

Figure H.2: Stability at each prefix length of SHAP and LIME explanations using BPIC2012 with prefix-length bucketing and aggregate encoding. Stability does not appear to be related to prefix length.

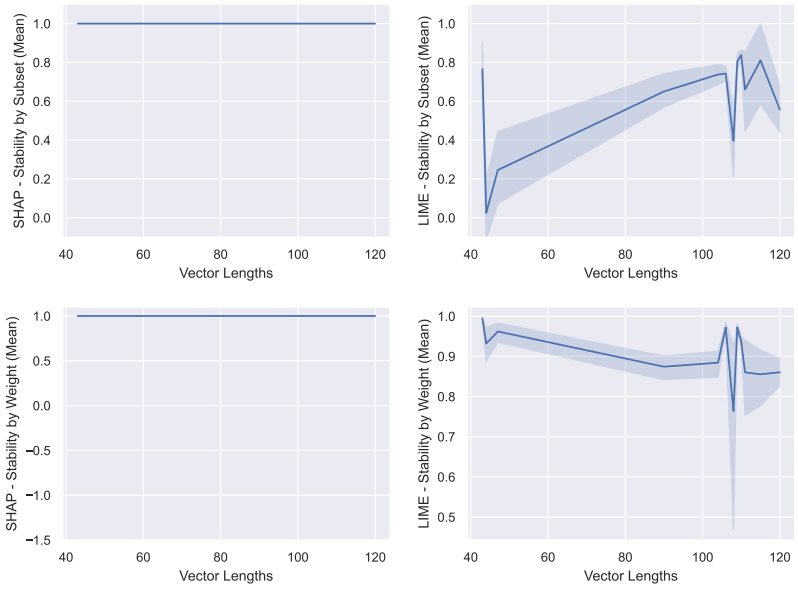

Figure H.3: Stability at each input length of SHAP and LIME explanations using BPIC2012 with prefix-length bucketing and aggregate encoding. Stability seems to be related to input length when the XAI technique perturbs the input.

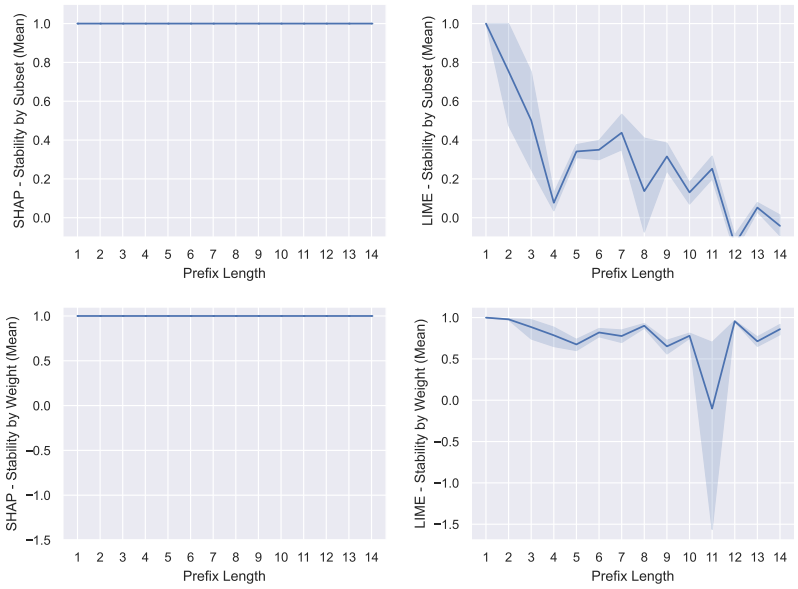

Figure H.4: Stability at each prefix length of SHAP and LIME explanations using BPIC2012 with prefix-length bucketing and index-based encoding. Stability appears to be related to prefix length when the XAI technique perturbs the input.

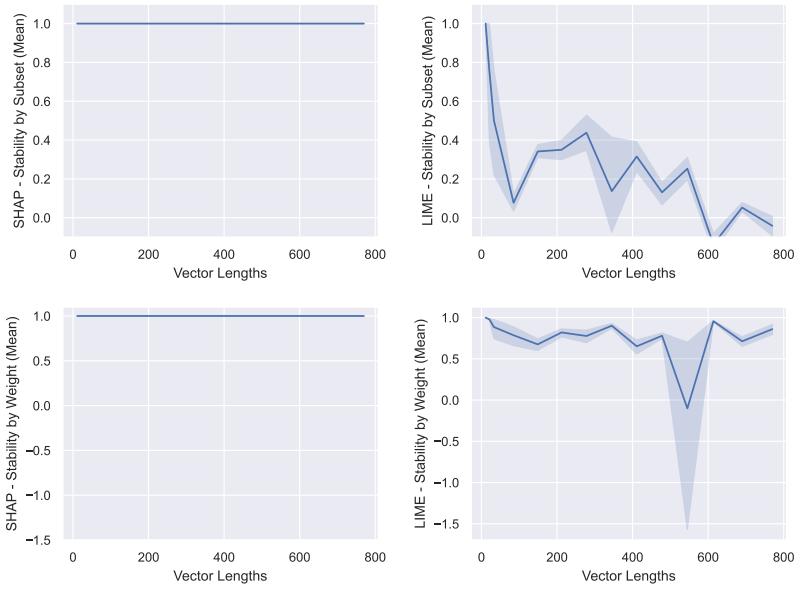

Figure H.5: Stability at each input length of SHAP and LIME explanations using BPIC2012 with prefix-length bucketing and index-based encoding. Stability seems to be related to input length when the XAI technique perturbs the input.

H.1.2 Logistic Regression

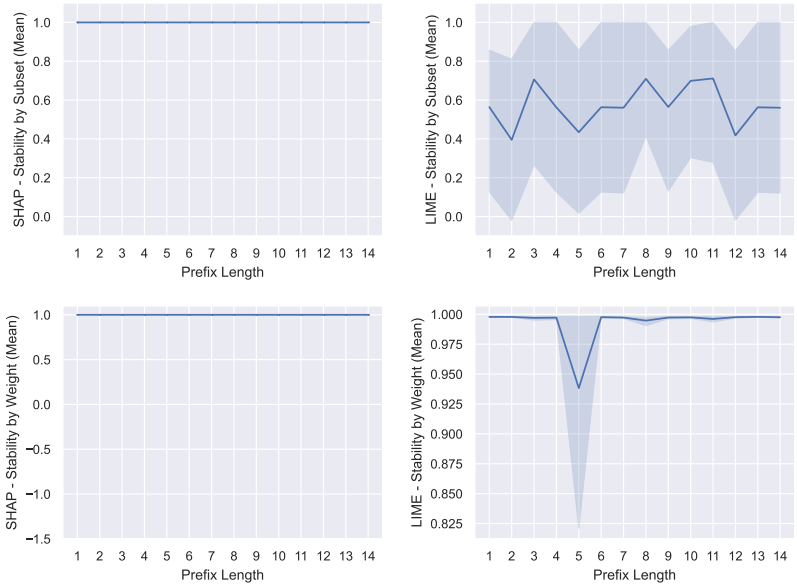

Figure H.6: Stability at each prefix length of SHAP and LIME explanations using BPIC2012 with single bucketing and aggregate encoding. Stability does not appear to be related to prefix length.

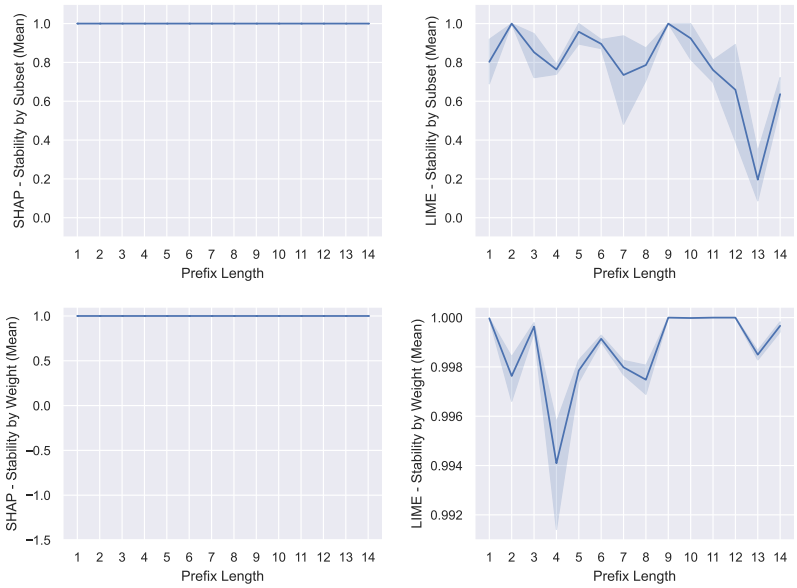

Figure H.7: Stability at each prefix length of SHAP and LIME explanations using BPIC2012 with prefix-length bucketing and aggregate encoding. Stability does not appear to be related to prefix length.

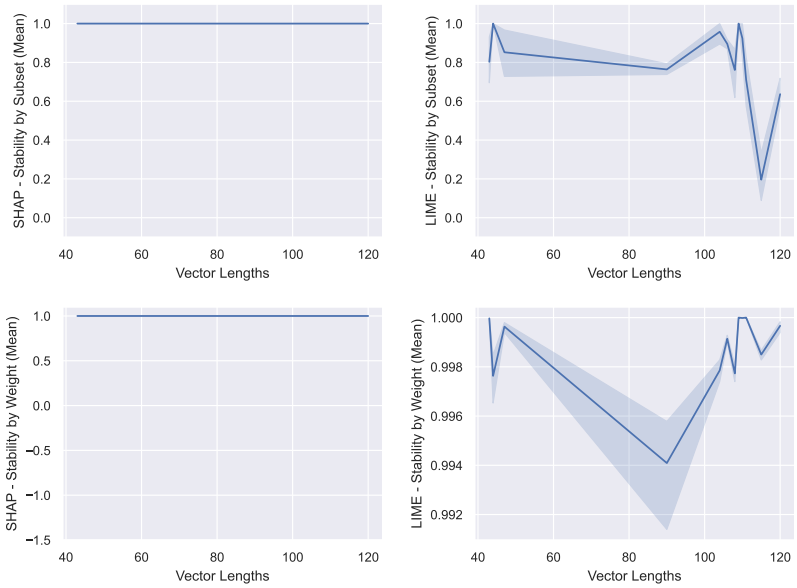

Figure H.8: Stability at each input length of SHAP and LIME explanations using BPIC2012 with prefix-length bucketing and aggregate encoding. Stability seems to be related to input length when the XAI technique perturbs the input.

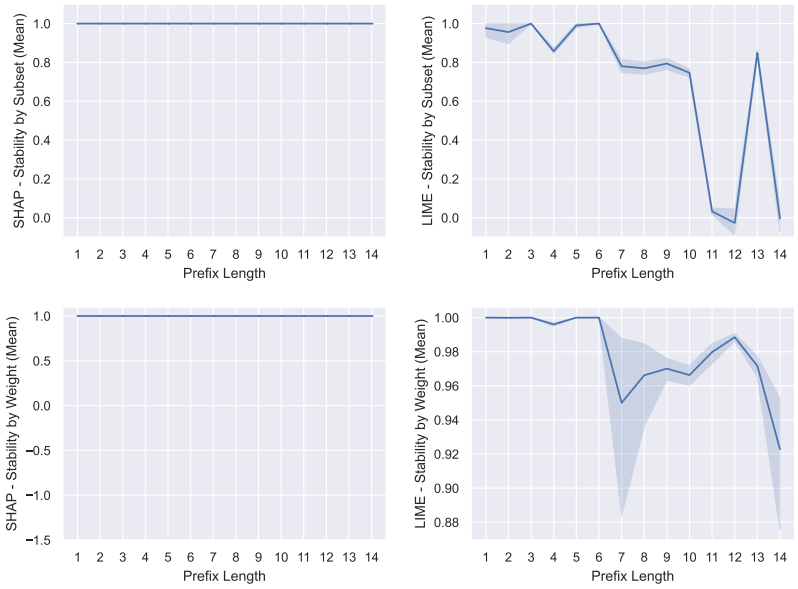

Figure H.9: Stability at each prefix length of SHAP and LIME explanations using BPIC2012 with prefix-length bucketing and index-based encoding. Stability appears to be related to prefix length when the XAI technique perturbs the input.

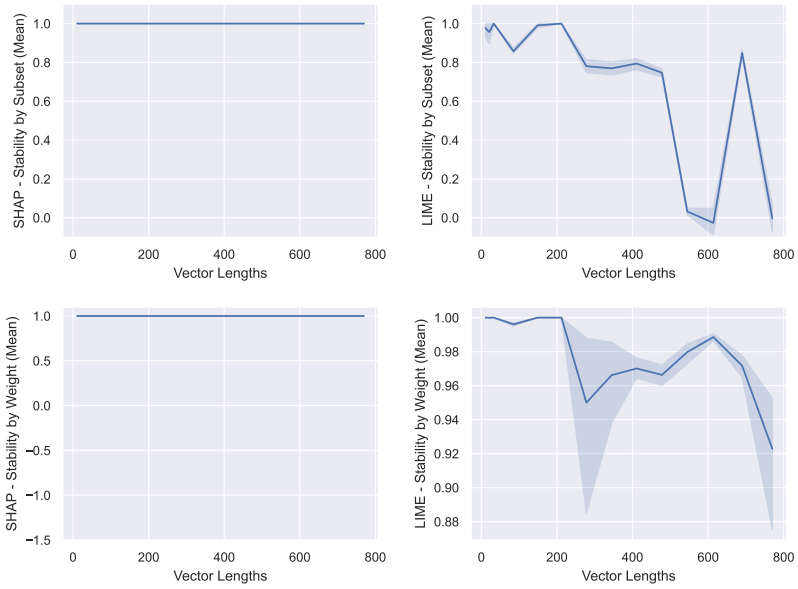

Figure H.10: Stability at each input length of SHAP and LIME explanations using BPIC2012 with prefix-length bucketing and index-based encoding. Stability seems to be related to input length when the XAI technique perturbs the input.

H.1.3 Naïve Bayes

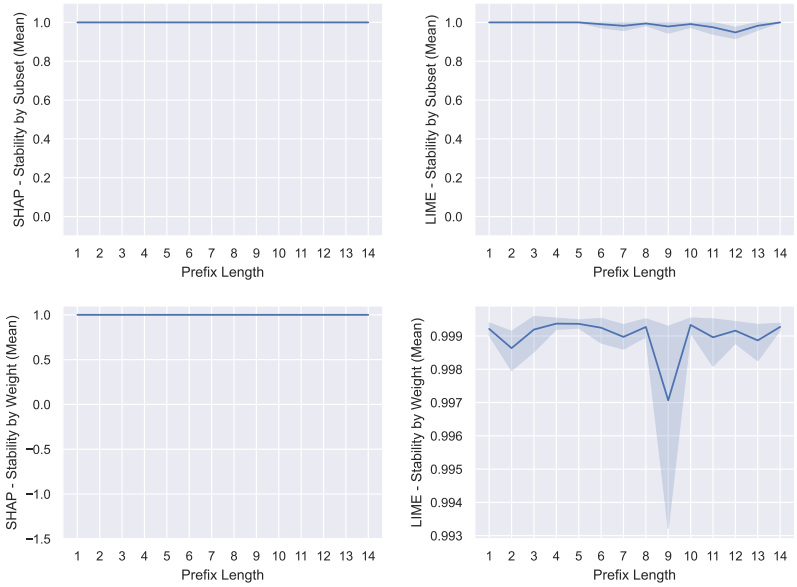

Figure H.11: Stability at each prefix length of SHAP and LIME explanations using BPIC2012 with single bucketing and aggregate encoding. Stability does not appear to be related to prefix length.

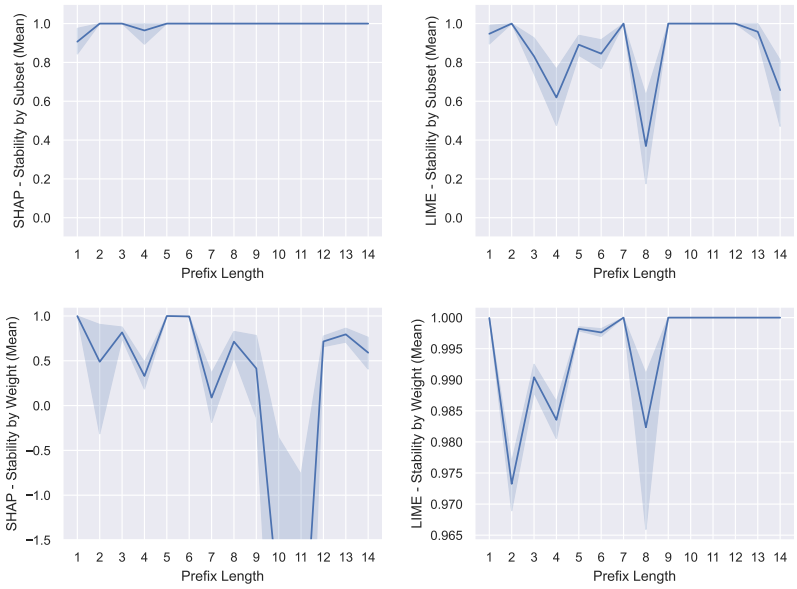

Figure H.12: Stability at each prefix length of SHAP and LIME explanations using BPIC2012 with prefix-length bucketing and aggregate encoding. Stability does not appear to be related to prefix length.

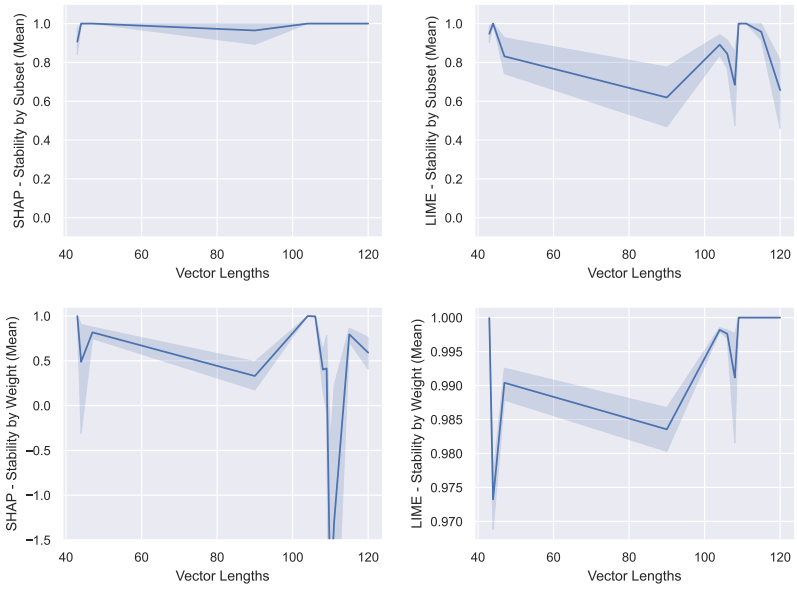

Figure H.13: Stability at each input length of SHAP and LIME explanations using BPIC2012 with prefix-length bucketing and aggregate encoding. Stability seems to be related to input length when the XAI technique perturbs the input.

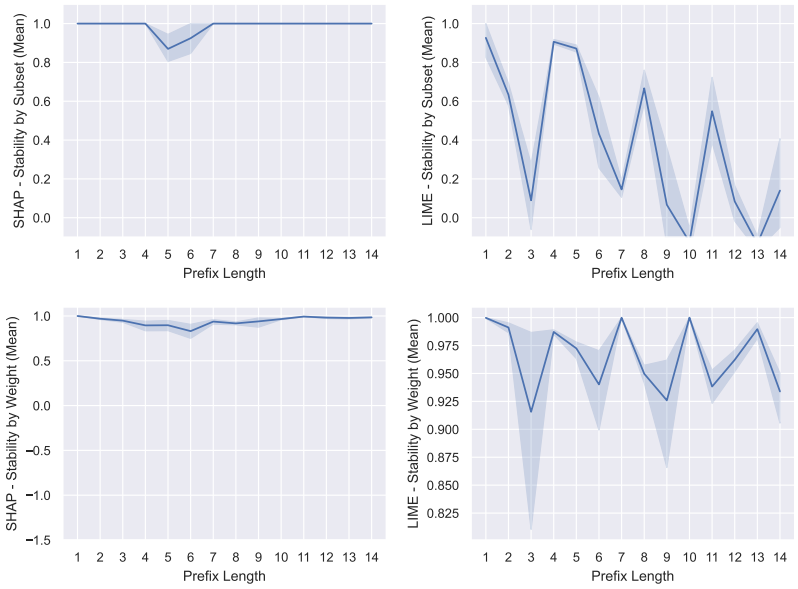

Figure H.14: Stability at each prefix length of SHAP and LIME explanations using BPIC2012 with prefix-length bucketing and index-based encoding. Stability appears to be related to prefix length when the XAI technique perturbs the input.

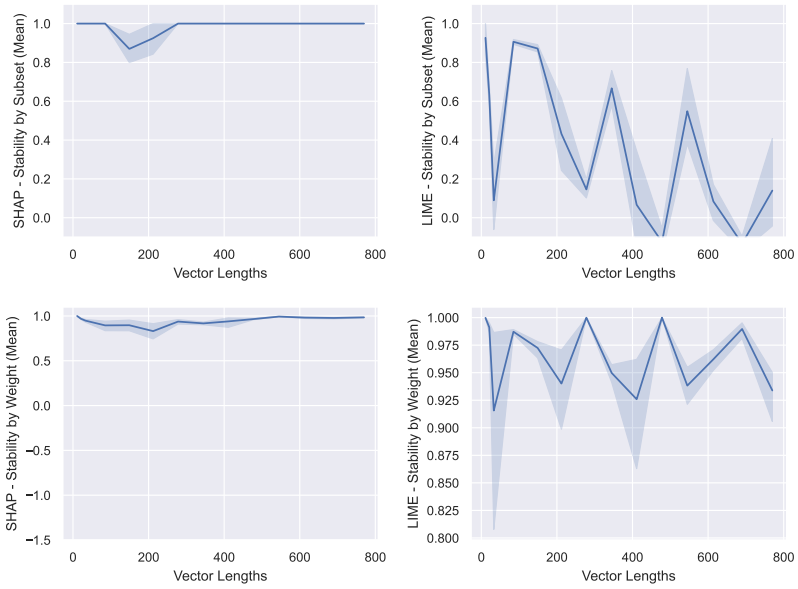

Figure H.15: Stability at each input length of SHAP and LIME explanations using BPIC2012 with prefix-length bucketing and index-based encoding. Stability seems to be related to input length when the XAI technique perturbs the input.

H.2 Production

H.2.1 XGBoost

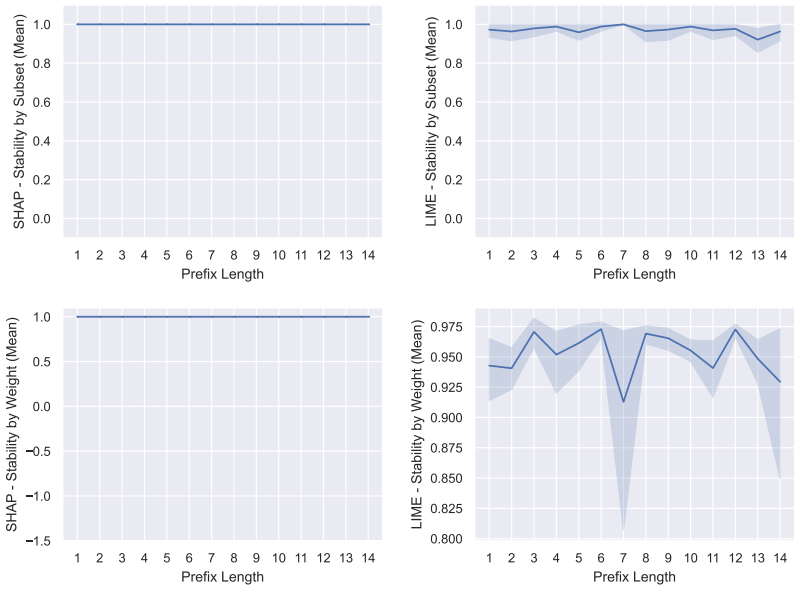

Figure H.16: Stability at each prefix length of SHAP and LIME explanations using Production with single bucketing and aggregate encoding. Stability does not appear to be related to prefix length.

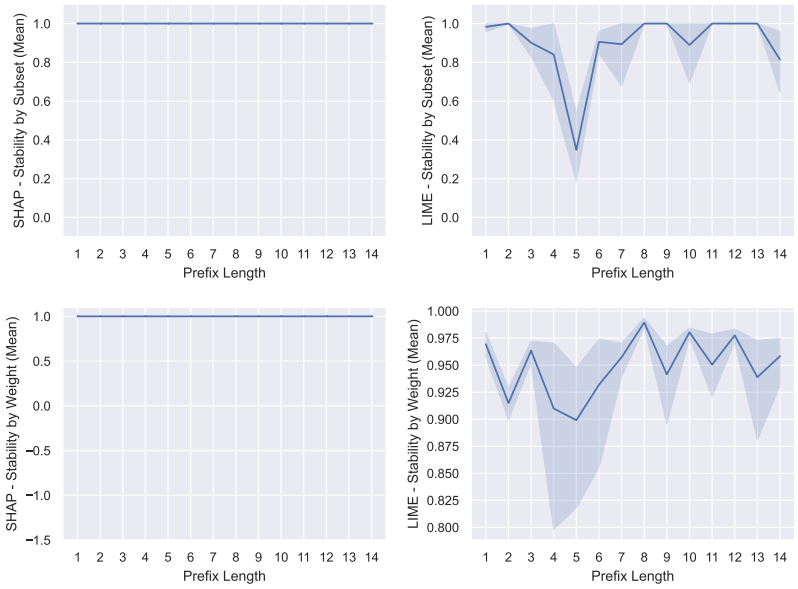

Figure H.17: Stability at each prefix length of SHAP and LIME explanations using Production with prefix-length bucketing and aggregate encoding. Stability does not appear to be related to prefix length.

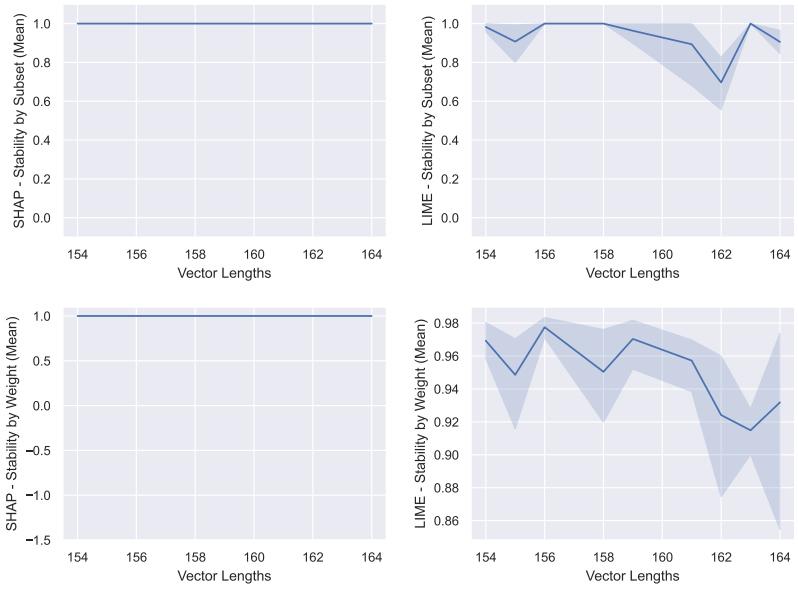

Figure H.18: Stability at each input length of SHAP and LIME explanations using Production with prefix-length bucketing and aggregate encoding. Stability seems to be related to input length when the XAI technique perturbs the input.

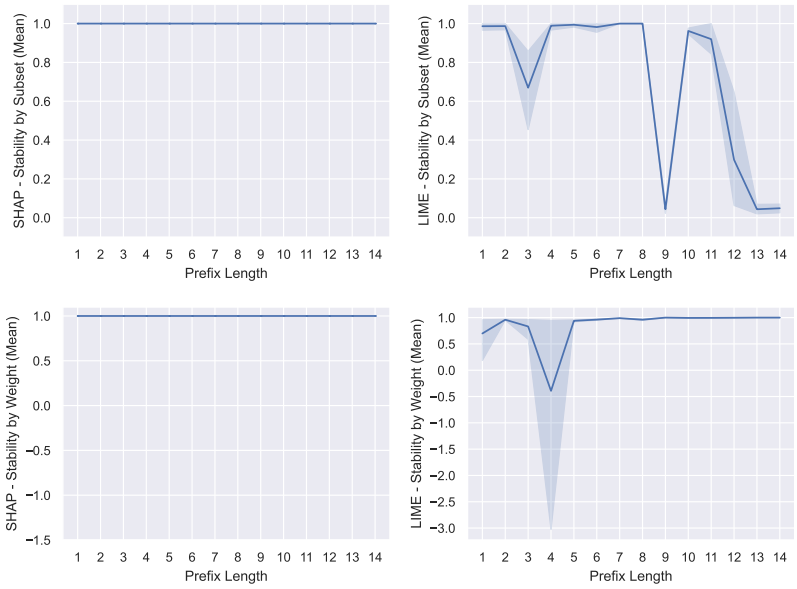

Figure H.19: Stability at each prefix length of SHAP and LIME explanations using Production with prefix-length bucketing and index-based encoding. Stability appears to be related to prefix length when the XAI technique perturbs the input.

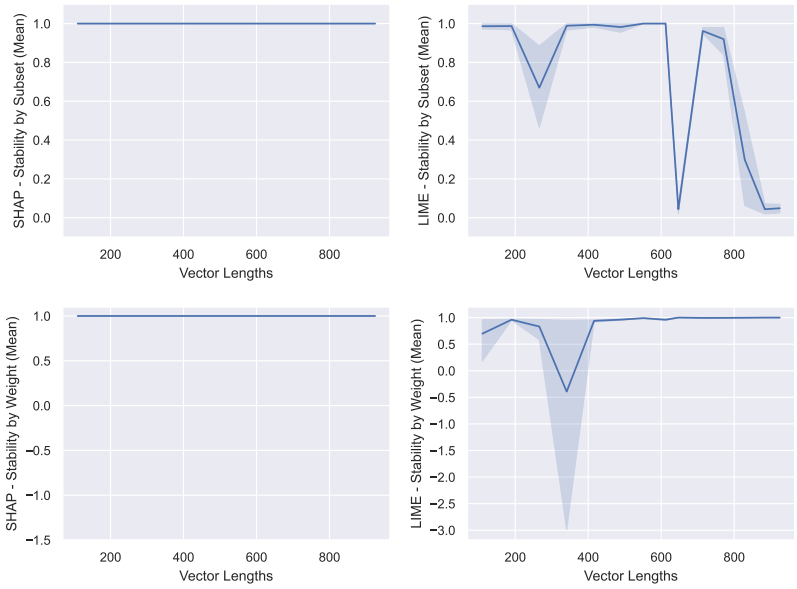

Figure H.20: Stability at each input length of SHAP and LIME explanations using Production with prefix-length bucketing and index-based encoding. Stability seems to be related to input length when the XAI technique perturbs the input.

H.2.2 Logistic Regression

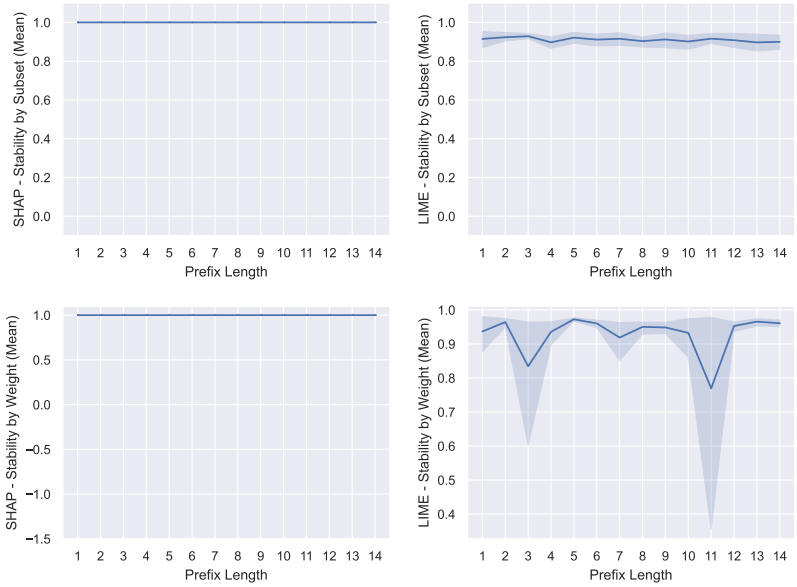

Figure H.21: Stability at each prefix length of SHAP and LIME explanations using Production with single bucketing and aggregate encoding. Stability does not appear to be related to prefix length.

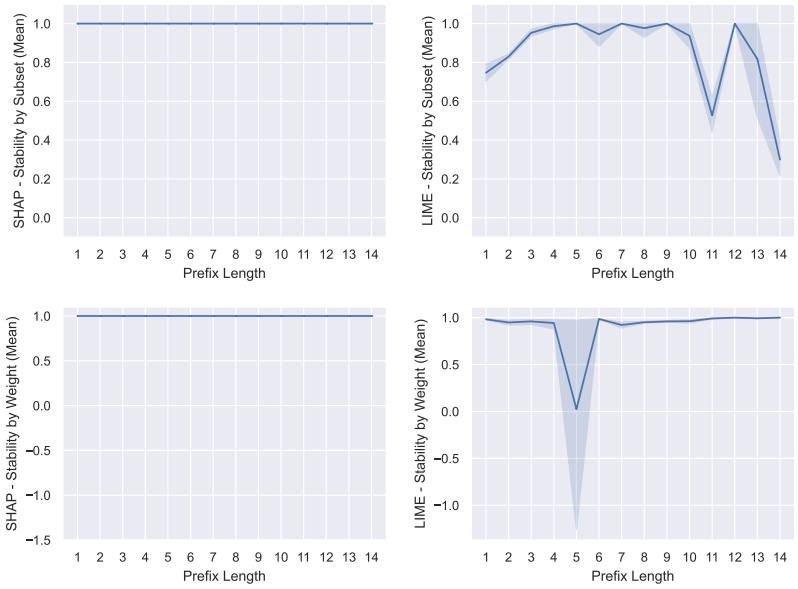

Figure H.22: Stability at each prefix length of SHAP and LIME explanations using Production with prefix-length bucketing and aggregate encoding. Stability does not appear to be related to prefix length.

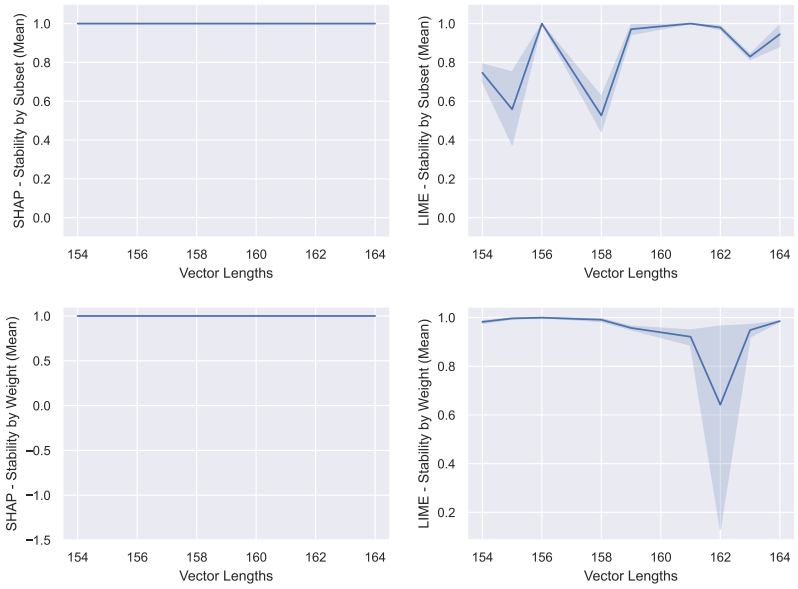

Figure H.23: Stability at each input length of SHAP and LIME explanations using Production with prefix-length bucketing and aggregate encoding. Stability seems to be related to input length when the XAI technique perturbs the input.

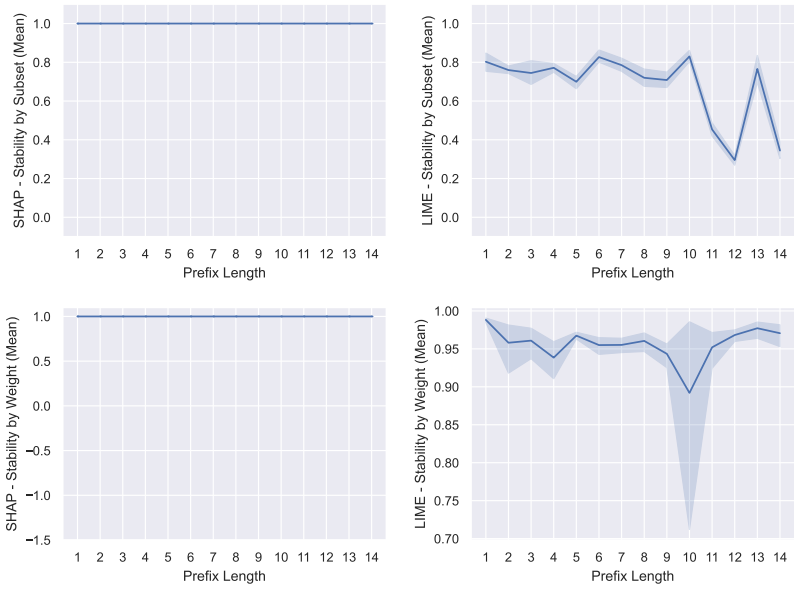

Figure H.24: Stability at each prefix length of SHAP and LIME explanations using Production with prefix-length bucketing and index-based encoding. Stability appears to be related to prefix length when the XAI technique perturbs the input.

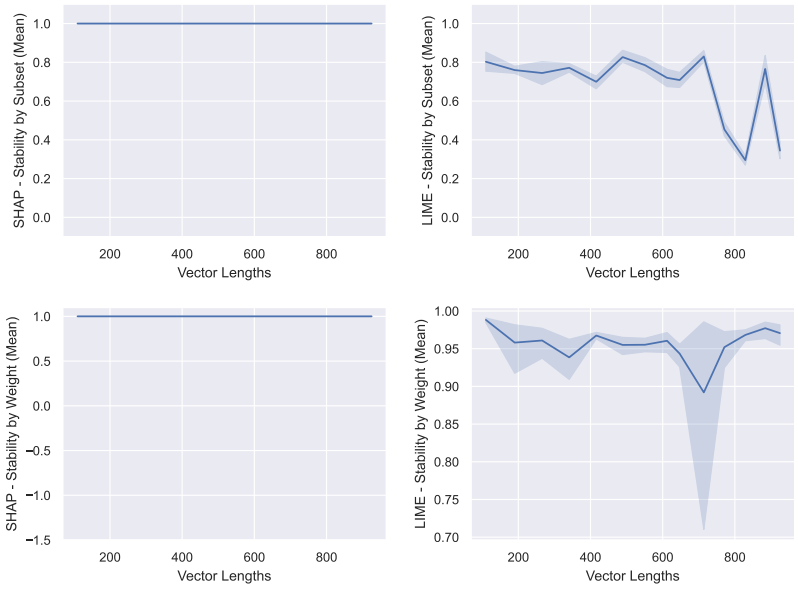

Figure H.25: Stability at each input length of SHAP and LIME explanations using Production with prefix-length bucketing and index-based encoding. Stability seems to be related to input length when the XAI technique perturbs the input.

H.2.3 Naïve Bayes

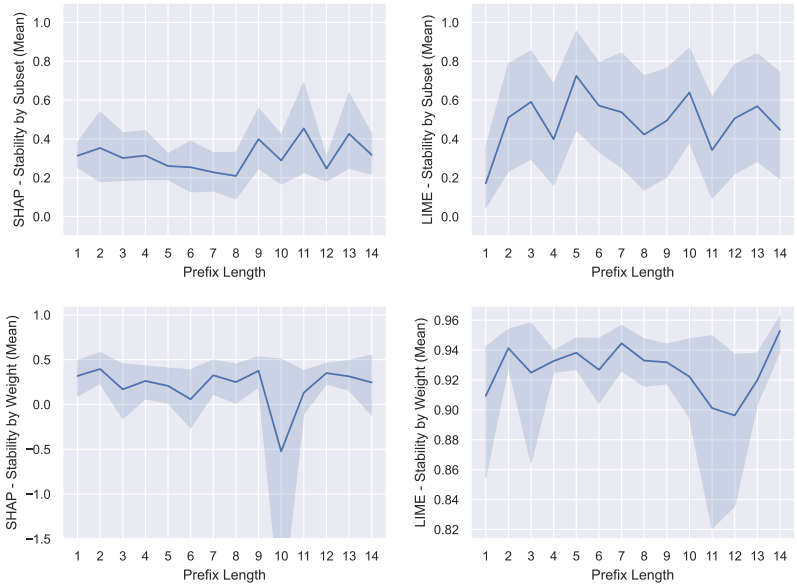

Figure H.26: Stability at each prefix length of SHAP and LIME explanations using Production with single bucketing and aggregate encoding. Stability does not appear to be related to prefix length.

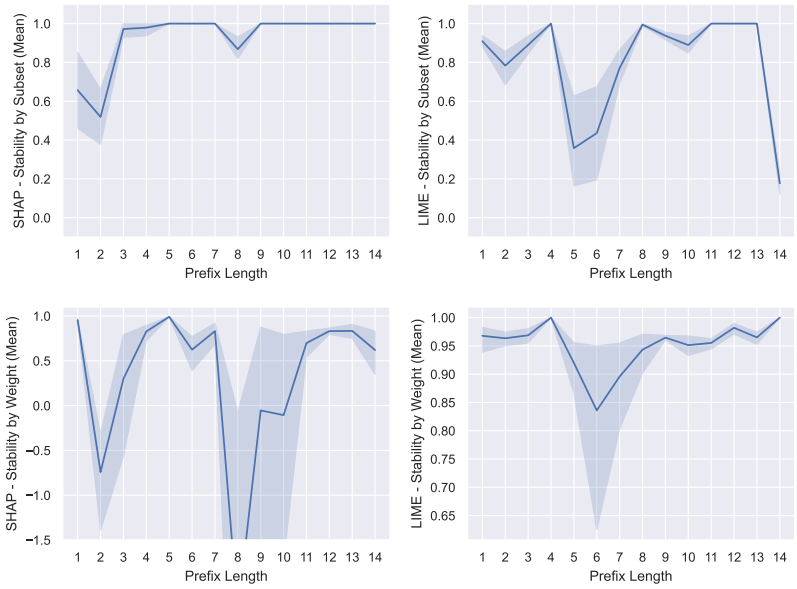

Figure H.27: Stability at each prefix length of SHAP and LIME explanations using Production with prefix-length bucketing and aggregate encoding. Stability does not appear to be related to prefix length.

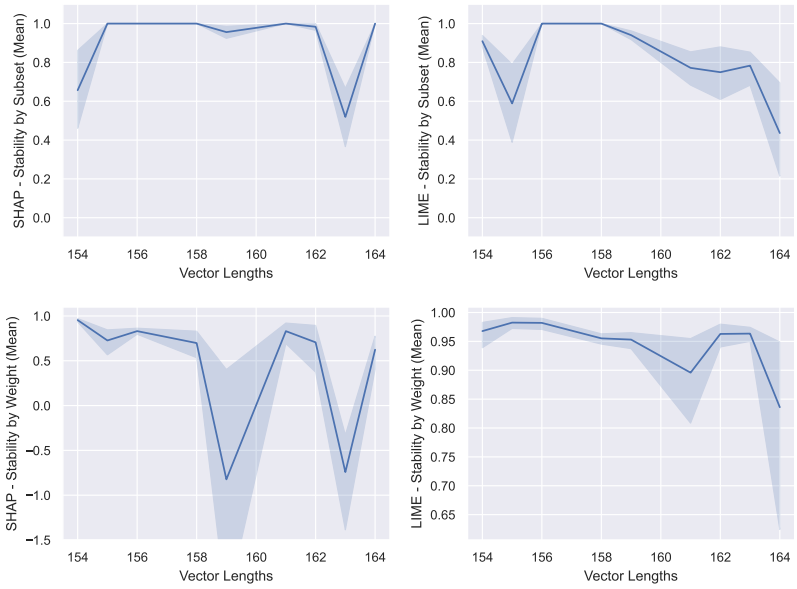

Figure H.28: Stability at each input length of SHAP and LIME explanations using Production with prefix-length bucketing and aggregate encoding. Stability seems to be related to input length when the XAI technique perturbs the input.

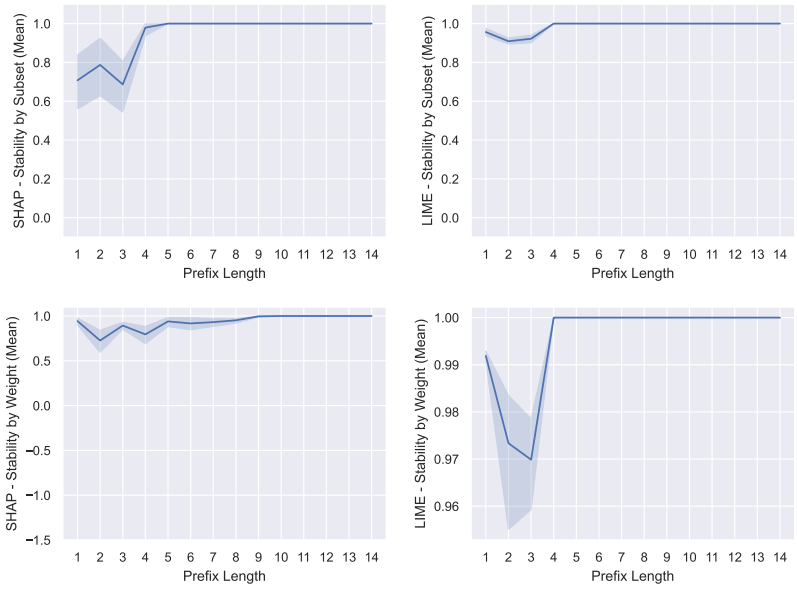

Figure H.29: Stability at each prefix length of SHAP and LIME explanations using Production with prefix-length bucketing and index-based encoding. Stability appears to be related to prefix length when the XAI technique perturbs the input.

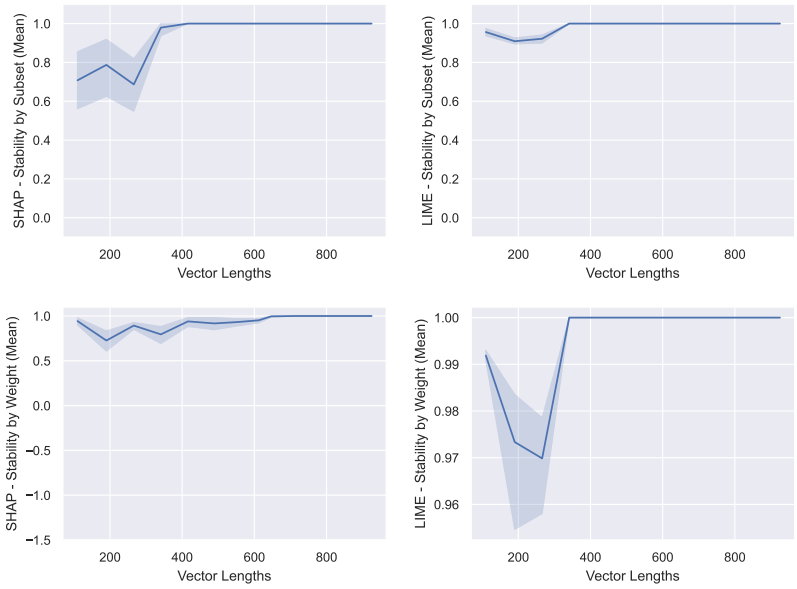

Figure H.30: Stability at each input length of SHAP and LIME explanations using Production with prefix-length bucketing and index-based encoding. Stability seems to be related to input length when the XAI technique perturbs the input.

H.3 Sepsis Cases

H.3.1 XGBoost

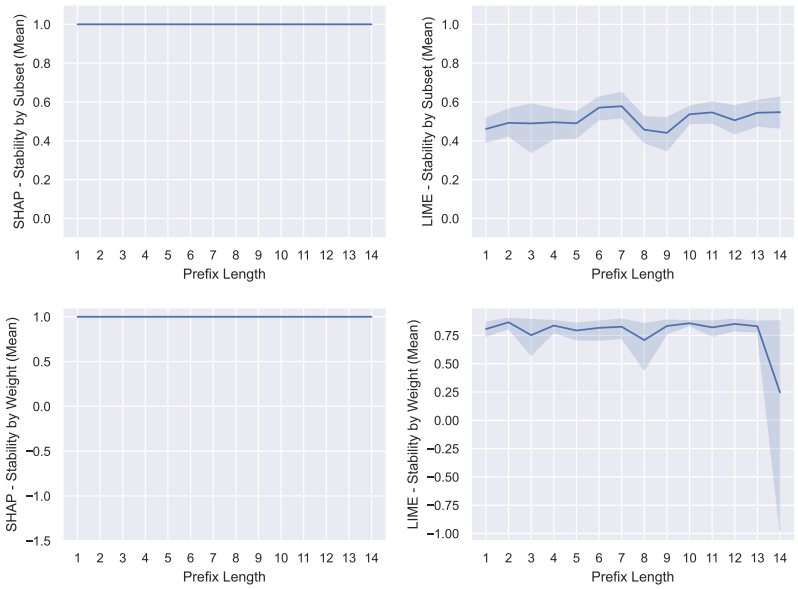

Figure H.31: Stability at each prefix length of SHAP and LIME explanations using Sepsis Cases with single bucketing and aggregate encoding. Stability does not appear to be related to prefix length.

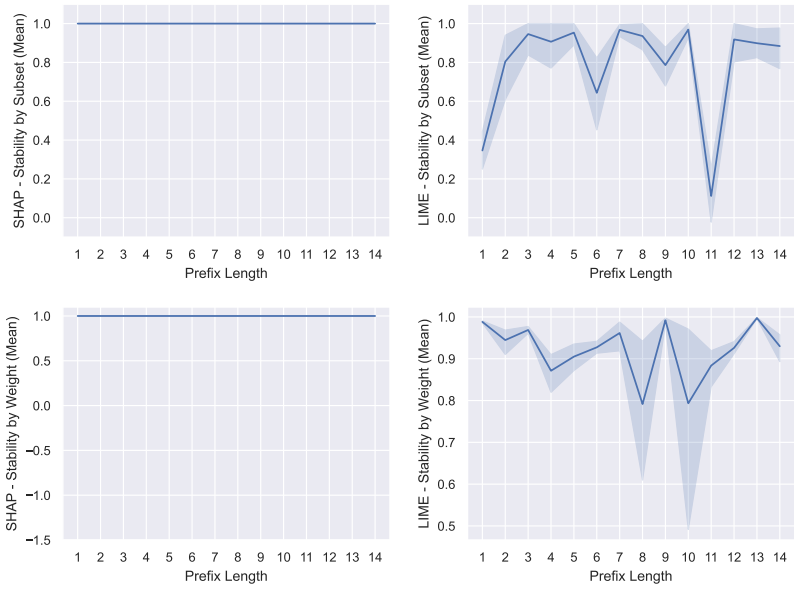

Figure H.32: Stability at each prefix length of SHAP and LIME explanations using Sepsis Cases with prefix-length bucketing and aggregate encoding. Stability does not appear to be related to prefix length.

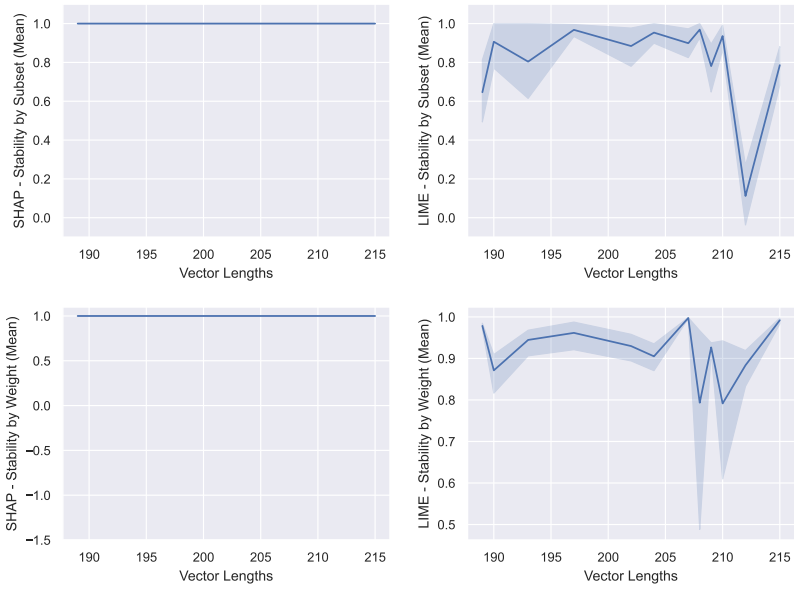

Figure H.33: Stability at each input length of SHAP and LIME explanations using Sepsis Cases with prefix-length bucketing and aggregate encoding. Stability seems to be related to input length when the XAI technique perturbs the input.

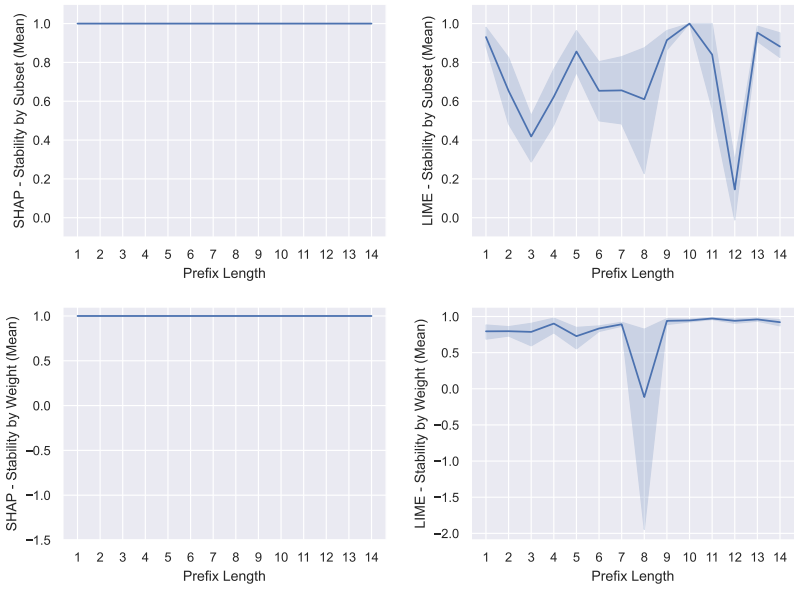

Figure H.34: Stability at each prefix length of SHAP and LIME explanations using Sepsis Cases with prefix-length bucketing and index-based encoding. Stability appears to be related to prefix length when the XAI technique perturbs the input.

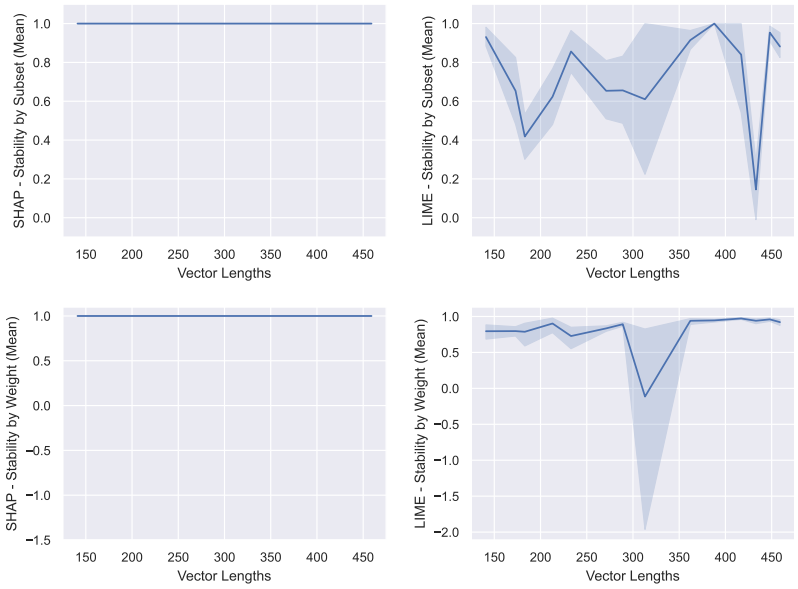

Figure H.35: Stability at each input length of SHAP and LIME explanations using Sepsis Cases with prefix-length bucketing and index-based encoding. Stability seems to be related to input length when the XAI technique perturbs the input.

H.3.2 Logistic Regression

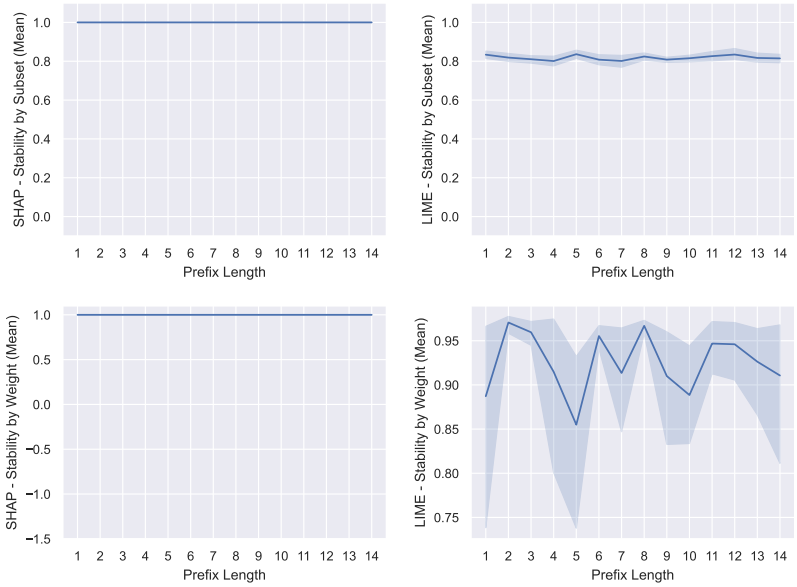

Figure H.36: Stability at each prefix length of SHAP and LIME explanations using Sepsis Cases with single bucketing and aggregate encoding. Stability does not appear to be related to prefix length.

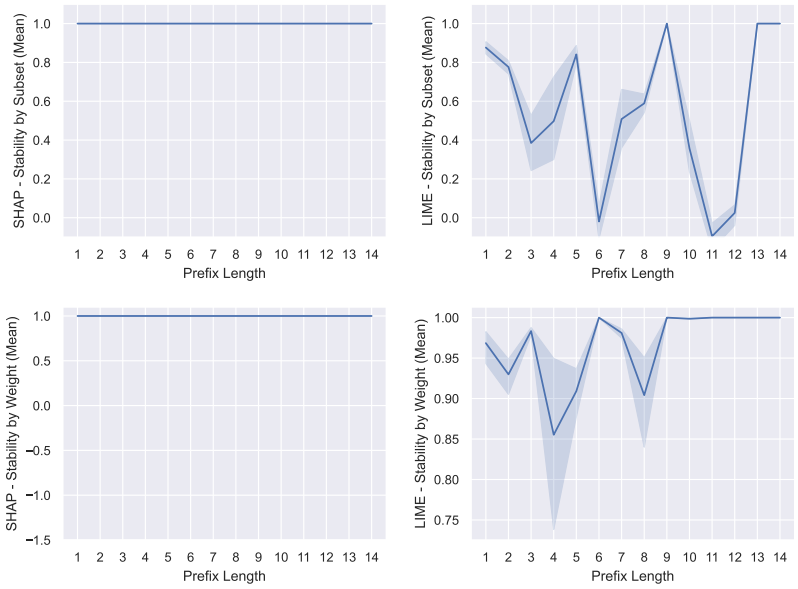

Figure H.37: Stability at each prefix length of SHAP and LIME explanations using Sepsis Cases with prefix-length bucketing and aggregate encoding. Stability does not appear to be related to prefix length.

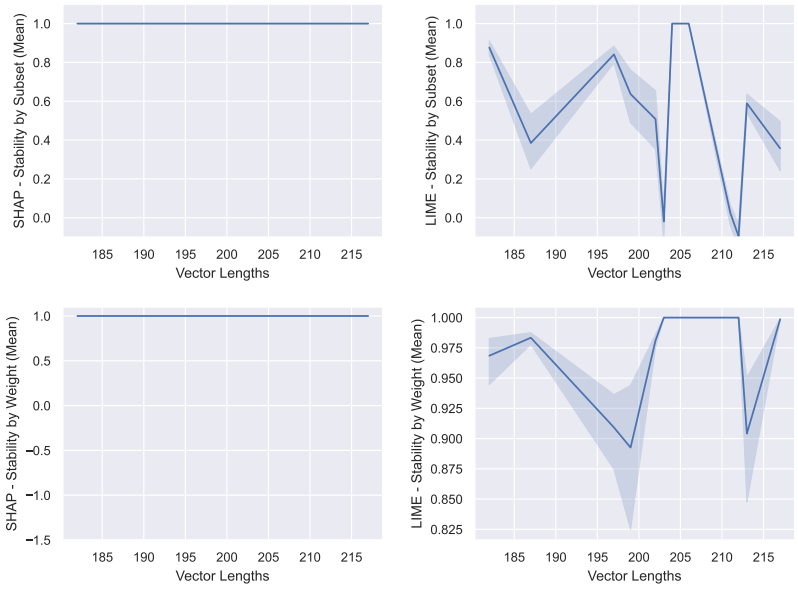

Figure H.38: Stability at each input length of SHAP and LIME explanations using Sepsis Cases with prefix-length bucketing and aggregate encoding. Stability seems to be related to input length when the XAI technique perturbs the input.

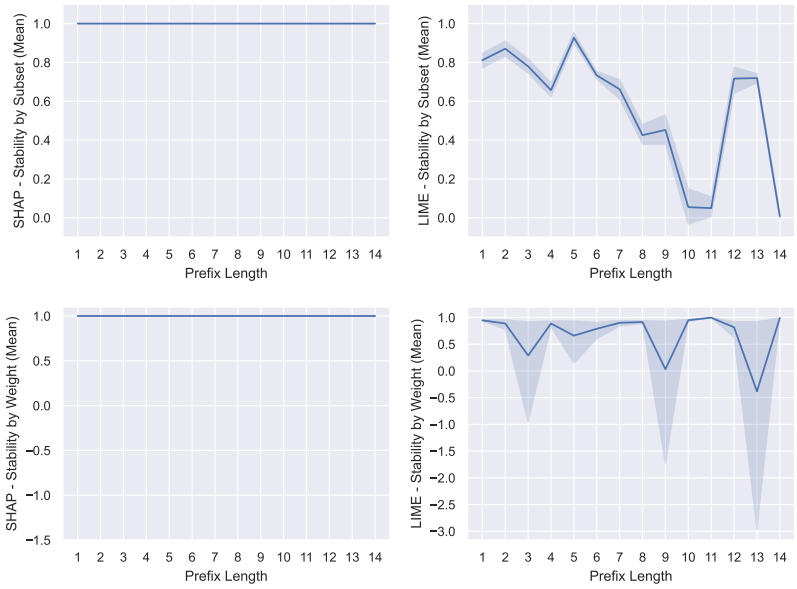

Figure H.39: Stability at each prefix length of SHAP and LIME explanations using Sepsis Cases with prefix-length bucketing and index-based encoding. Stability appears to be related to prefix length when the XAI technique perturbs the input.

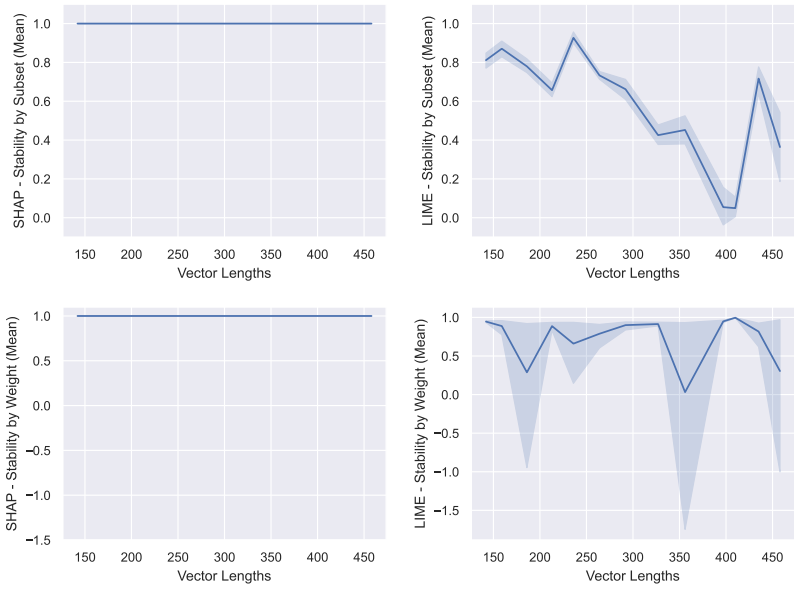

Figure H.40: Stability at each input length of SHAP and LIME explanations using Sepsis Cases with prefix-length bucketing and index-based encoding. Stability seems to be related to input length when the XAI technique perturbs the input.

H.3.3 Naïve Bayes

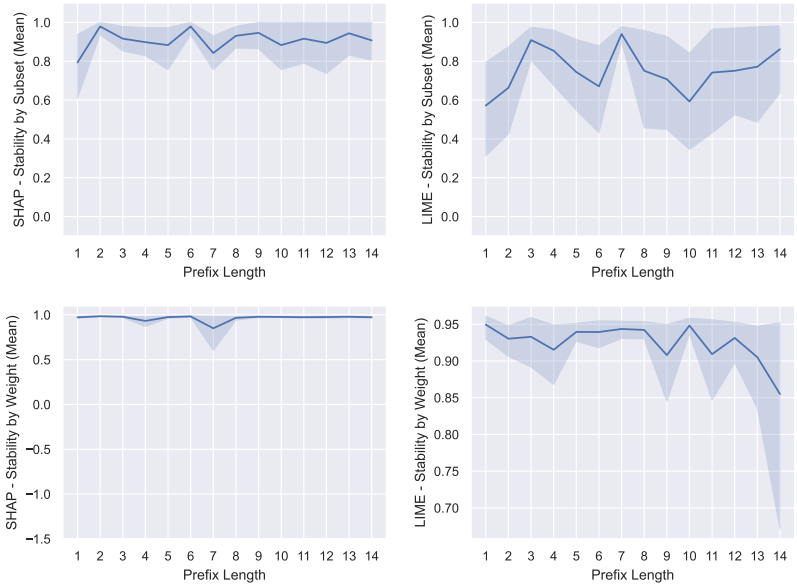

Figure H.41: Stability at each prefix length of SHAP and LIME explanations using Sepsis Cases with single bucketing and aggregate encoding. Stability does not appear to be related to prefix length.

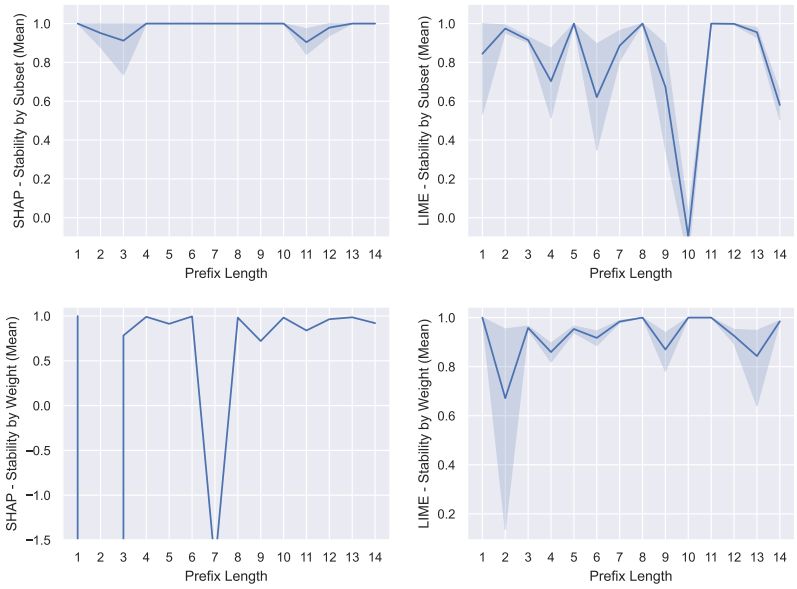

Figure H.42: Stability at each prefix length of SHAP and LIME explanations using Sepsis Cases with prefix-length bucketing and aggregate encoding. Stability does not appear to be related to prefix length.

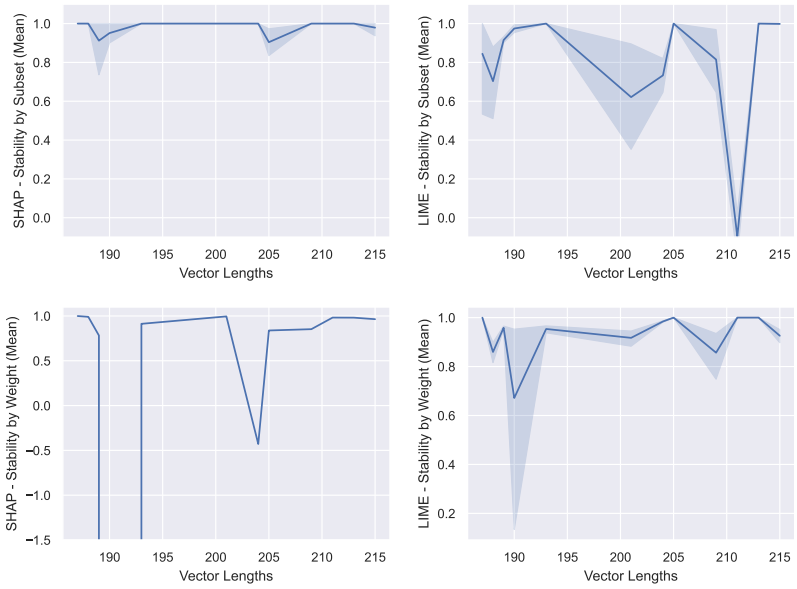

Figure H.43: Stability at each input length of SHAP and LIME explanations using Sepsis Cases with prefix-length bucketing and aggregate encoding. Stability seems to be related to input length when the XAI technique perturbs the input.

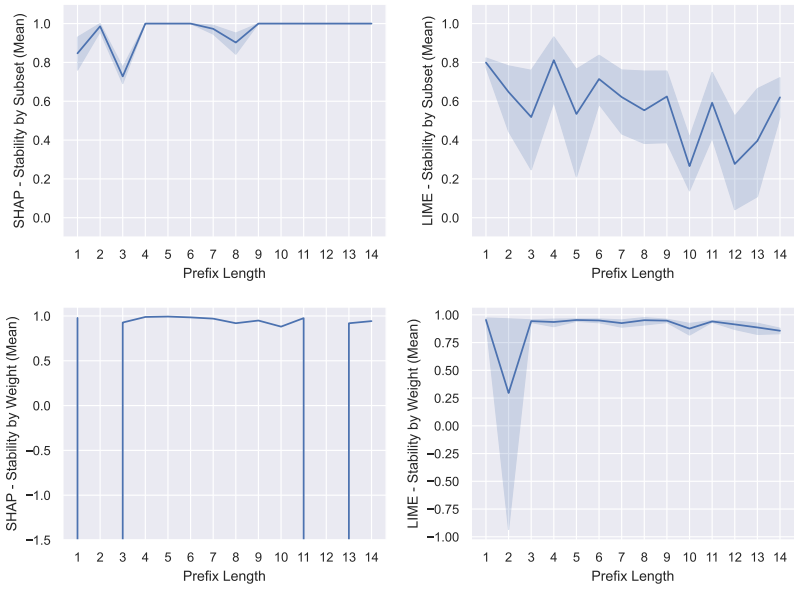

Figure H.44: Stability at each prefix length of SHAP and LIME explanations using Sepsis Cases with prefix-length bucketing and index-based encoding. Stability appears to be related to prefix length when the XAI technique perturbs the input.

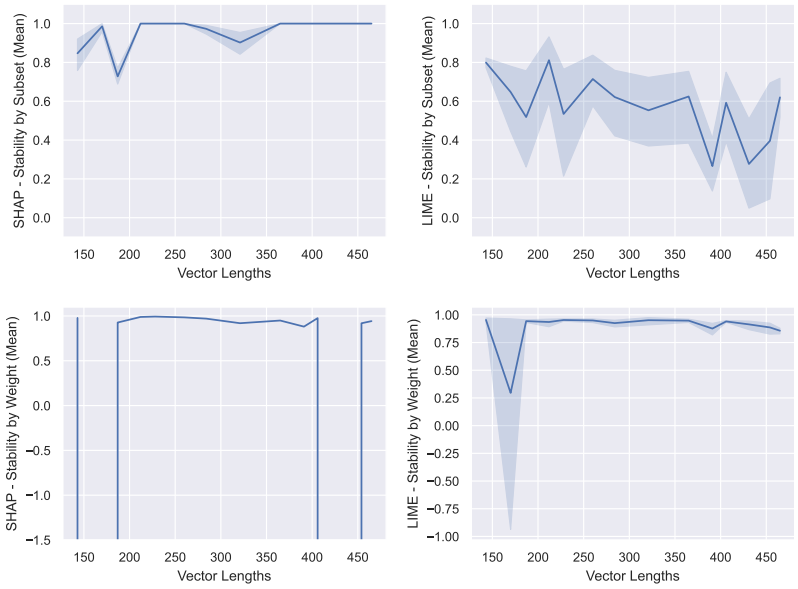

Figure H.45: Stability at each input length of SHAP and LIME explanations using Sepsis Cases with prefix-length bucketing and index-based encoding. Stability seems to be related to input length when the XAI technique perturbs the input.