



MACHINE LEARNING PREDICTIONS WITH "THE WHY"

TECHNOLOGY BRIEF: SIMMACHINES VS. LIME BENCHMARK RESULTS

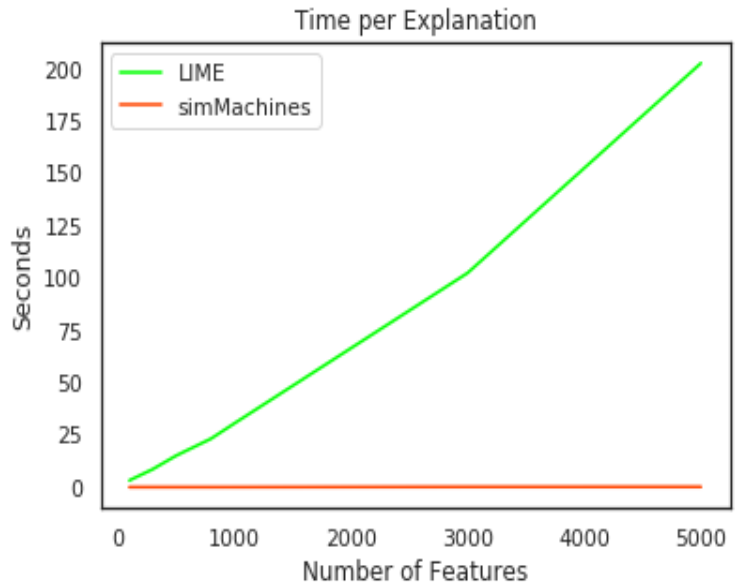
Since its inception, simMachines has focused on explainability as core to its machine learning technology, believing that every prediction must be explainable for business users to effectively apply machine learning at speed and scale. Every prediction provides an explanation that is inherent to simMachines similarity-based method and the predictions it makes. simMachines recently benchmarked the performance of its explainable AI (XAI) technology against LIME, another known approach that enables users to make machine learning algorithms explainable.

BENCHMARK RESULTS

The below benchmarks were run in April, 2019 on the same data set and HW configuration. The speed is per prediction speed at various column widths.

Per Prediction Run Times

columns	seconds	key
100	3.313	LIME
300	8.649	LIME
500	15.111	LIME
800	23.241	LIME
1,000	30.531	LIME
3,000	102.401	LIME
5,000	202.561	LIME
100	0.140	simMachines
300	0.139	simMachines
500	0.139	simMachines
800	0.138	simMachines
1,000	0.145	simMachines
3,000	0.255	simMachines
5,000	0.267	simMachines



CONCLUSIONS

The conclusion of the benchmark is that simMachines operates at much greater speed and scale overall and for large scale commercial applications that require fast run times or millisecond response times, is better suited. simMachines focuses on applications of its technology in marketing, fraud and identity management where speed and scale for real-time detection and monitoring with explainability, large scale segmentation and analysis on wide data, and speed to insight is critical to a business.

simMachines is recognized as a leader in XAI by clients and analyst firms and recently won an 2019 Edison Award for innovation in the Applied Technology, Artificial and Human Intelligence category.