

3C.6 Machine-Learned Assessment and Prediction of Robust Solid-State Storage System Reliability Physics by Jay Sarkar, Cory Peterson, Amir Sanayei, Western Digital Corporation

Application of machine learning (ML) to in-field failure prediction, aka prognostics, is developing. This paper from Western Digital (Sarkar et al.) used ML methods to predict near term failure of solid state drives (SSDs). They found that SSDs have signals which enable plausible prognostics. The figure shows they found they could predict with good accuracy impending failure out to around 75 days in the future.

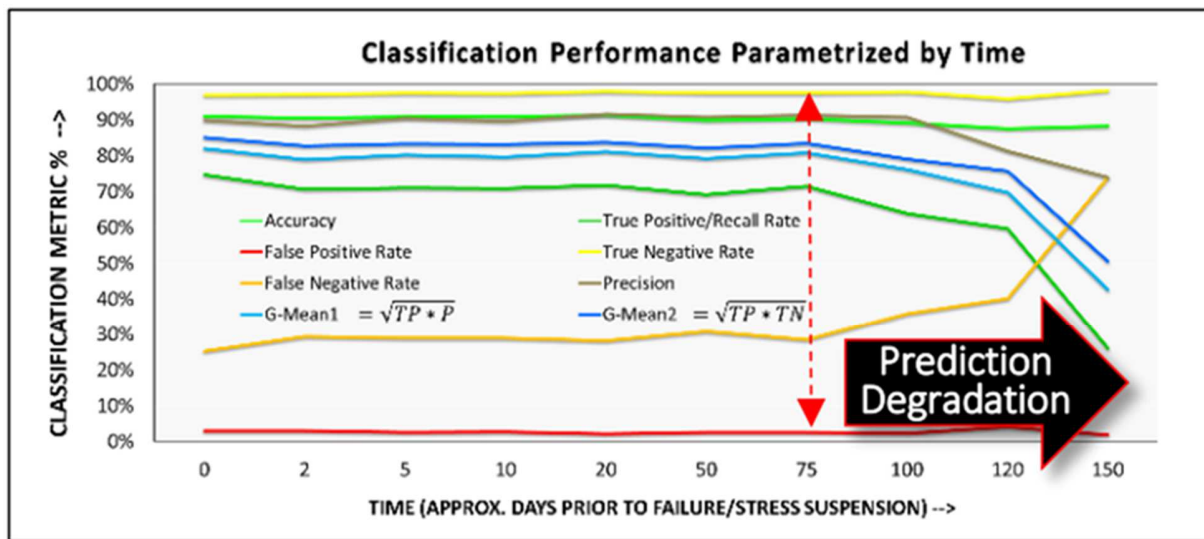


Fig. 5. Predictive efficacy of classification metrics shown as a function of time/state prior to actual failure or stress suspension for survivors.