Based on prior performance, we expect that about 20% of the data collected by Advanced LIGO and Virgo in the next observing runs will be single-interferometer data, i.e., they will be collected at times when only one detector in the network is operating in observing mode. Searches for gravitational wave signals from supernova events do not rely on matched filtering techniques as state-of-the-art simulations do not yet allow gravitational waveforms to be computed with the required precision and accuracy for a template search. If a galactic supernova occurs during single-interferometer times, separation of its unmodelled gravitational-wave signal from noise will be even more difficult due to lack of coherence between detectors. We discuss a machine-learning method to improve single-interferometer supernova searches based on the standard LIGO-Virgo coherent WaveBurst (cWB) pipeline. We show that the method may be used to decrease the false alarm rate of the search and increase the supernova detection reach of current detectors.