

Sieć MLP – analiza działania dla przykładowych danych

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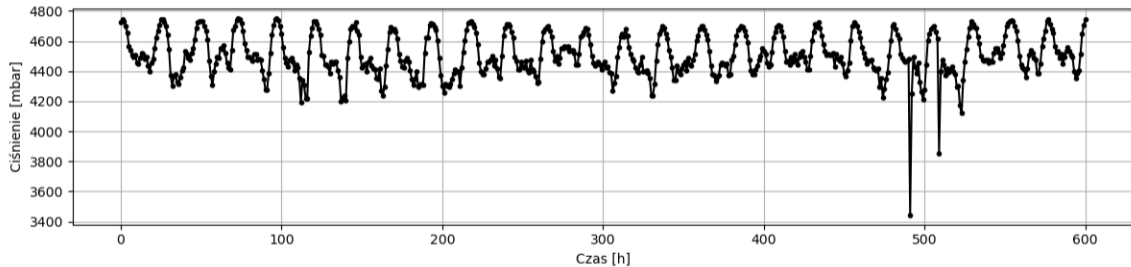
redaktor pomocniczy: Bartłomiej Gardas



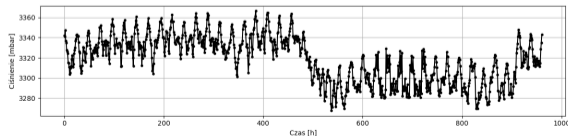
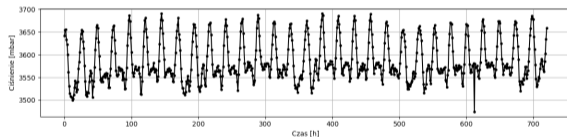
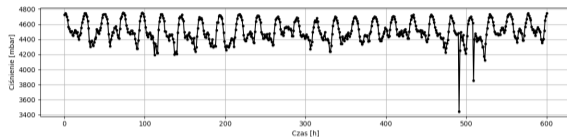
Sieci neuronowe – „case study” weryfikacji danych



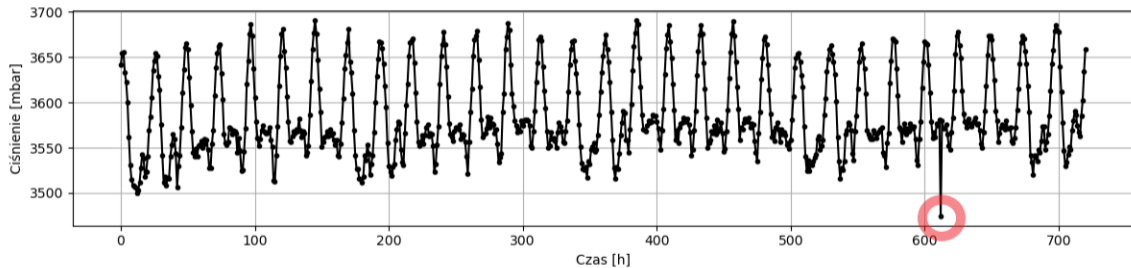
❏ Pomiar ciśnienia na wejściu do strefy wodociągowej



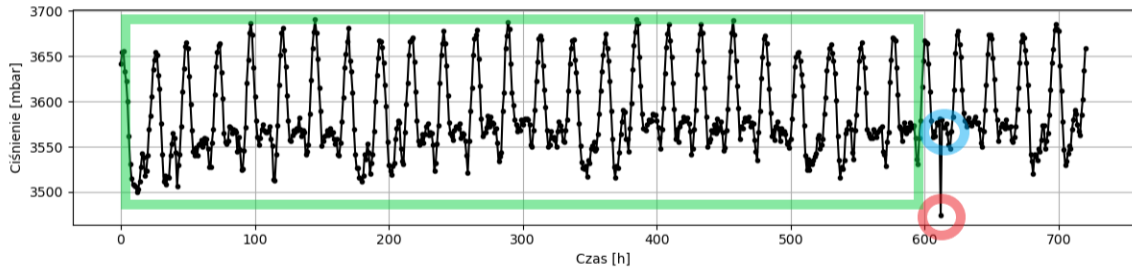
✦ Pomiar ciśnienia na wejściu do strefy wodociągowej



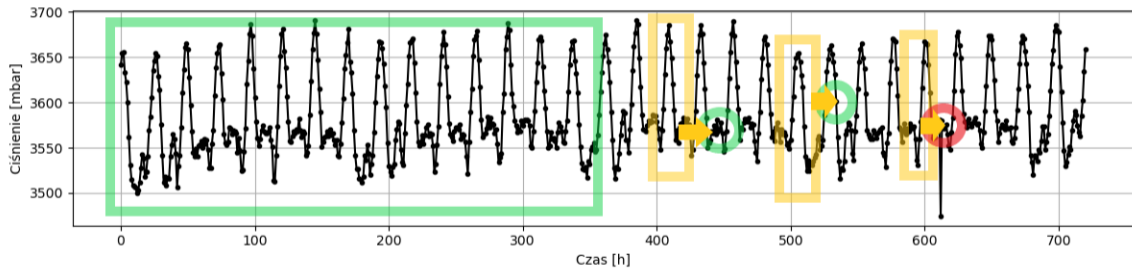
Weryfikacja danych



Anomalia → „nietypowe zachowanie”

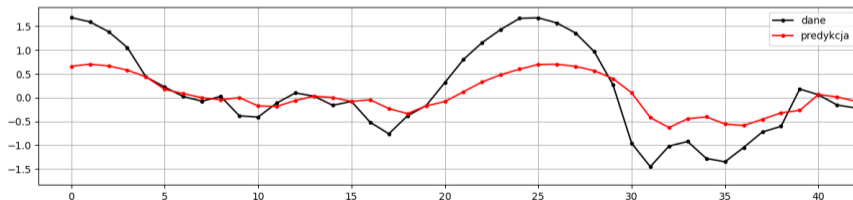
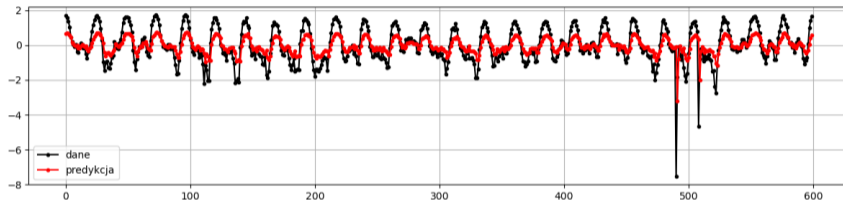


Weryfikacja na podstawie predykcji z modelu



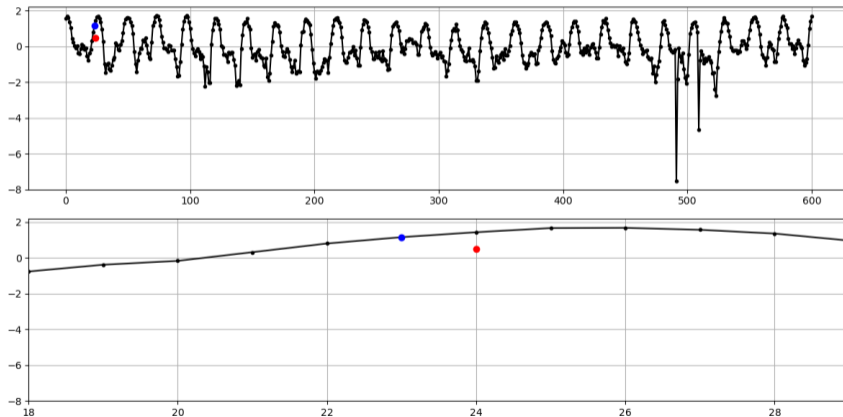
✦ Jeden, wyjściowy neuron

n_window, layers = 1, []



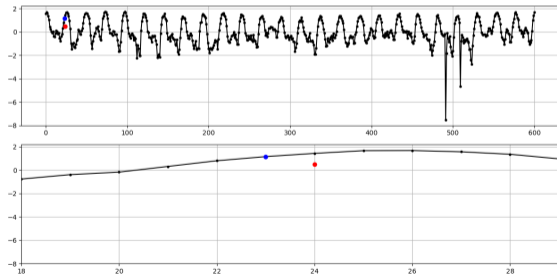
✦ Jeden, wyjściowy neuron

`n_window, layers = 1, []`



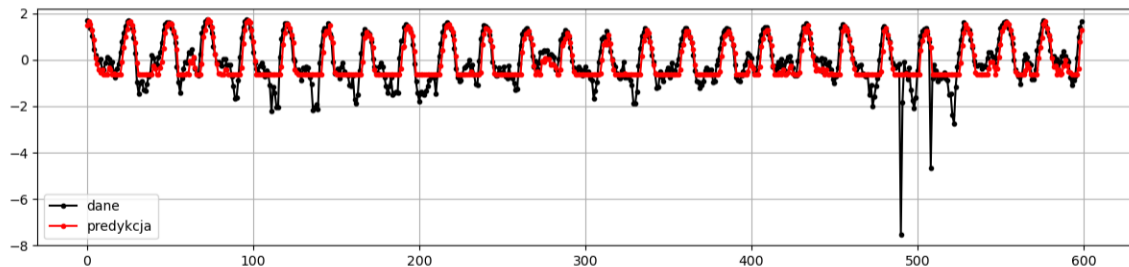
✦ Jeden, wyjściowy neuron

`n_window, layers = 1, []`



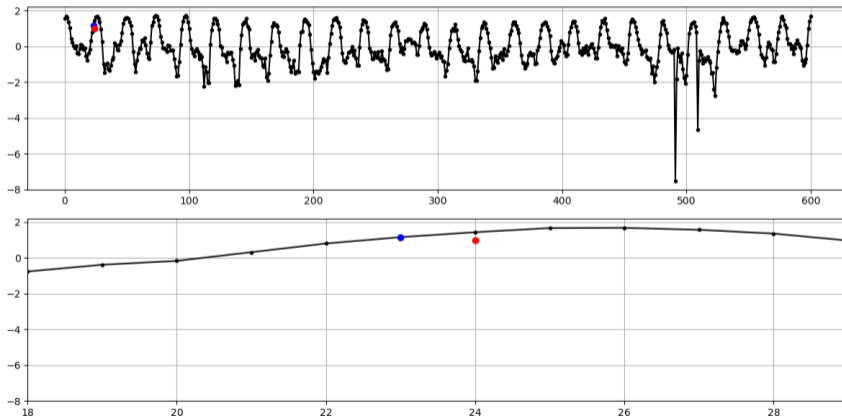
✦ Jeden neuron w warstwie ukrytej

n_window, layers = 1, [1]



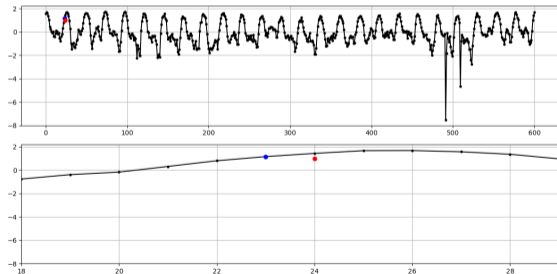
✦ Jeden neuron w warstwie ukrytej

`n_window, layers = 1, [1]`



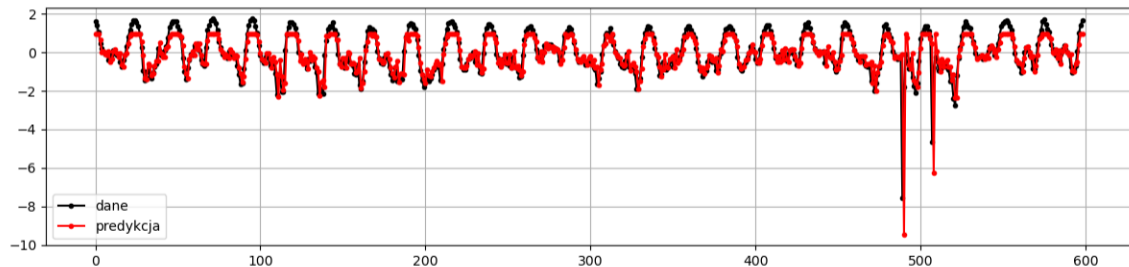
✦ Jeden neuron w warstwie ukrytej

n_window, layers = 1, [1]



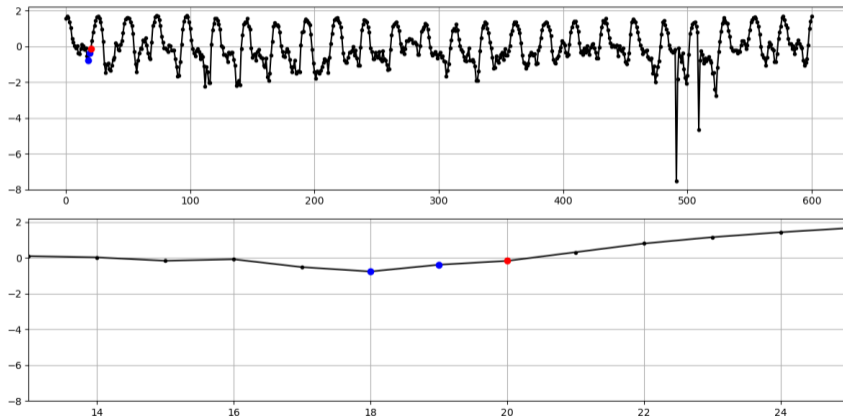
❖ Dwa pomiary w historii

`n_window, layers = 2, [1]`



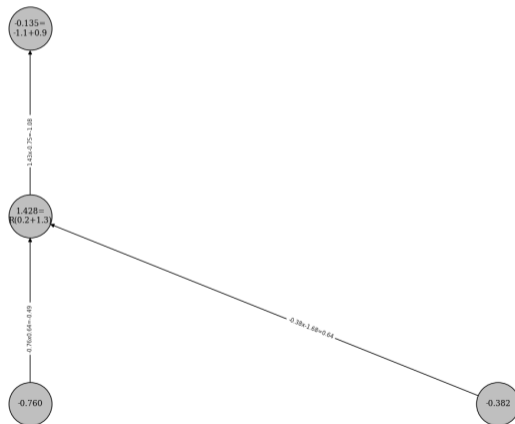
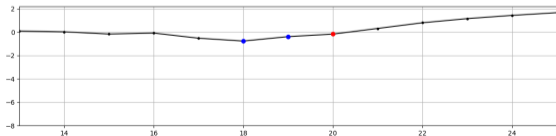
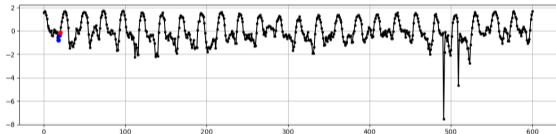
❏ Dwa pomiary w historii

`n_window, layers = 2, [1]`



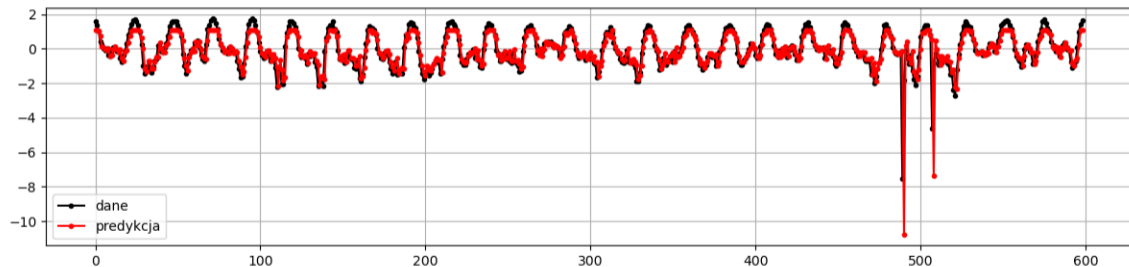
Dwa pomiary w historii

`n_window, layers = 2, [1]`



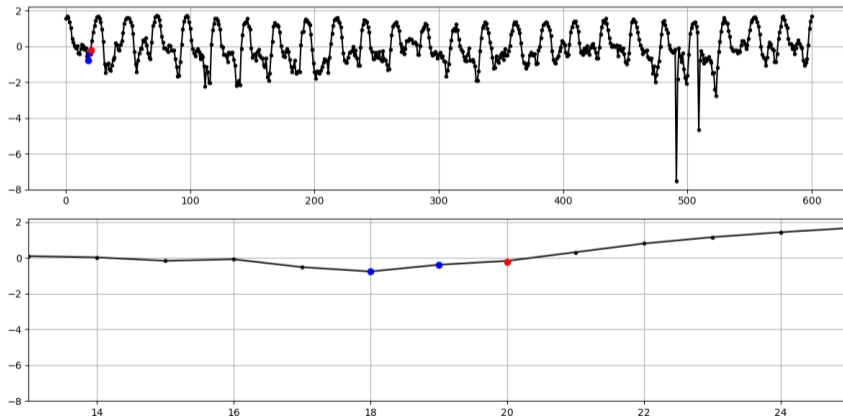
2 pomiary w historii i 2 neurony w w. ukrytej

n_window, layers = 2, [2]



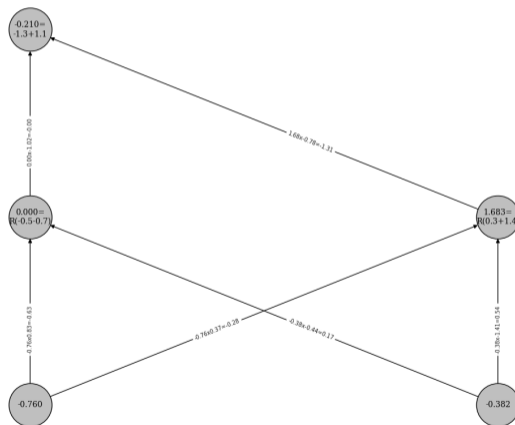
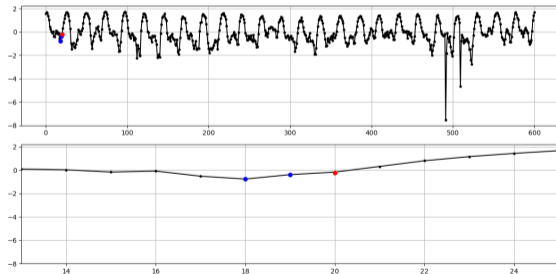
2 pomiary w historii i 2 neurony w w. ukrytej

`n_window, layers = 2, [2]`



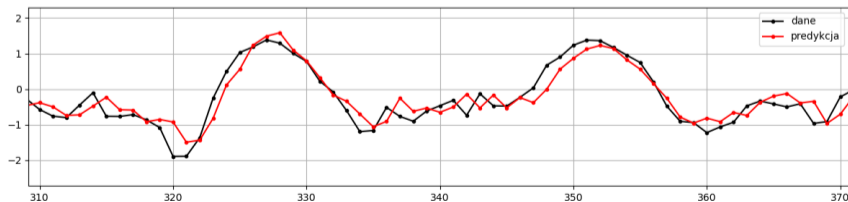
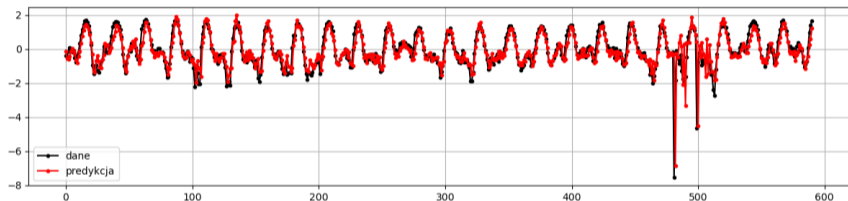
2 pomiary w historii i 2 neurony w w. ukrytej

n_window, layers = 2, [2]



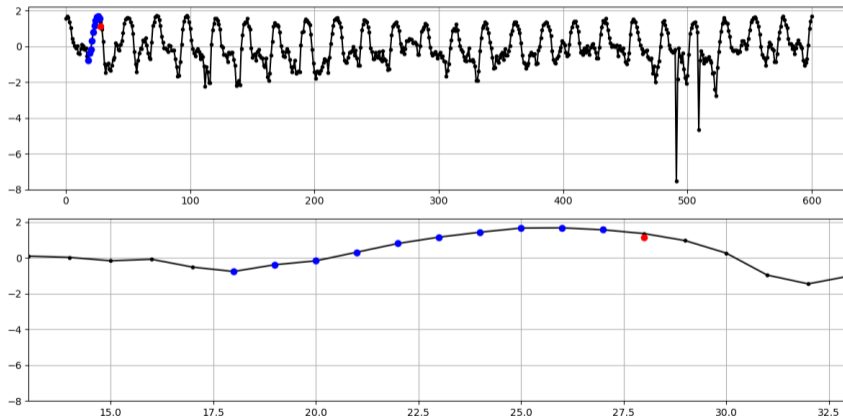
10 pomiarów w historii i 2 neurony w w. ukrytej

`n_window, layers = 10, [2]`



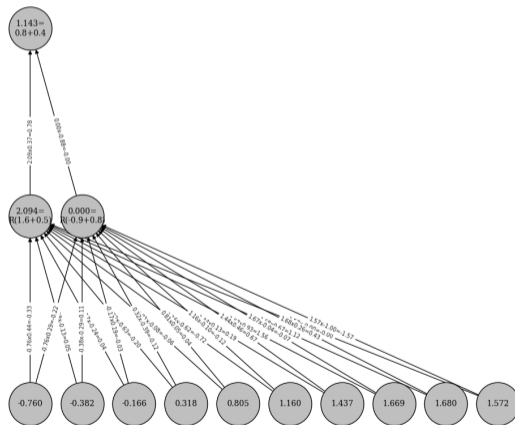
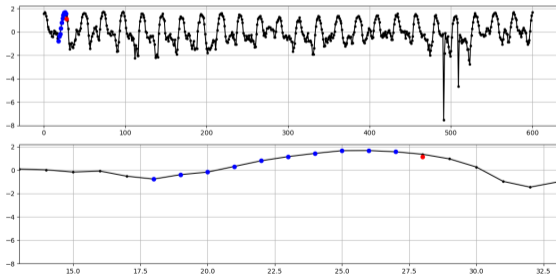
10 pomiarów w historii i 2 neurony w w. ukrytej

`n_window, layers = 10, [2]`



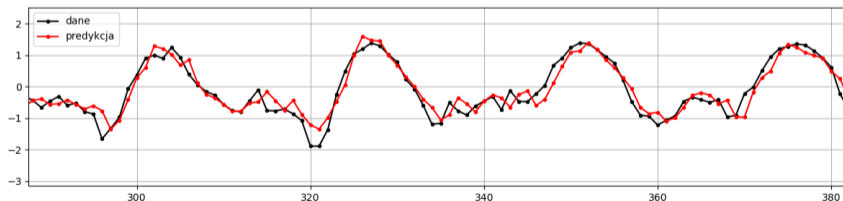
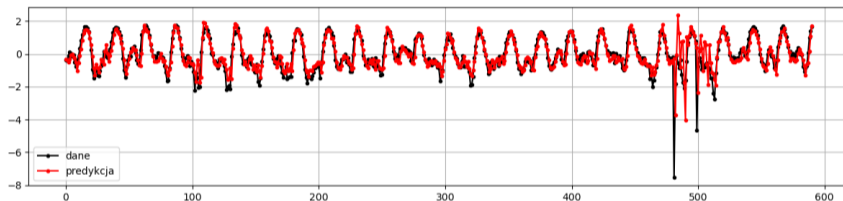
10 pomiarów w historii i 2 neurony w w. ukrytej

n_window, layers = 10, [2]



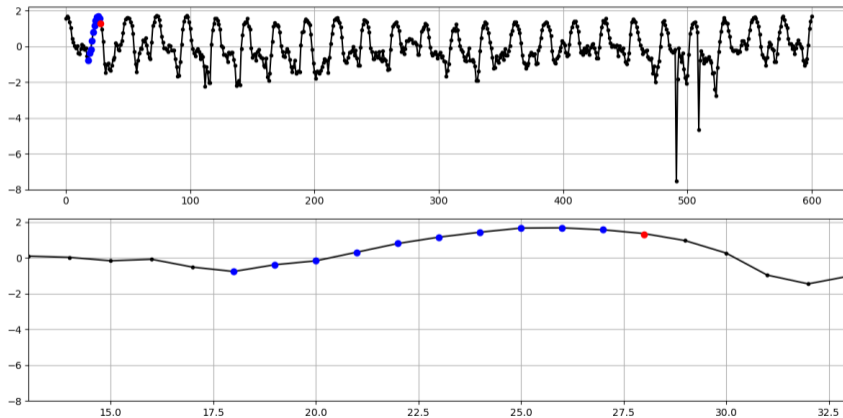
10 pomiarów w historii i 3 neurony w w. ukrytej

`n_window, layers = 10, [3]`



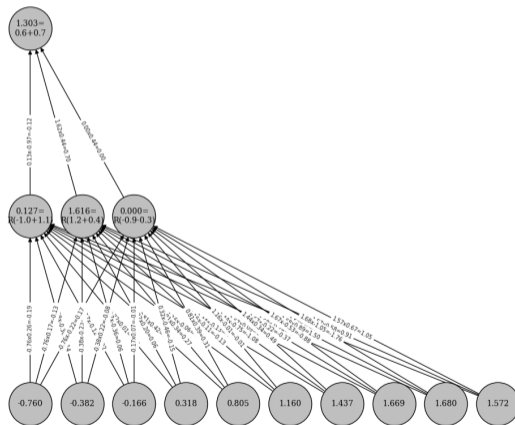
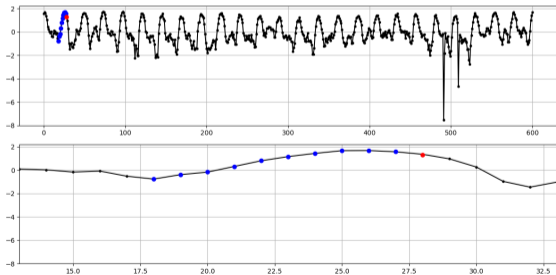
10 pomiarów w historii i 3 neurony w w. ukrytej

`n_window, layers = 10, [3]`



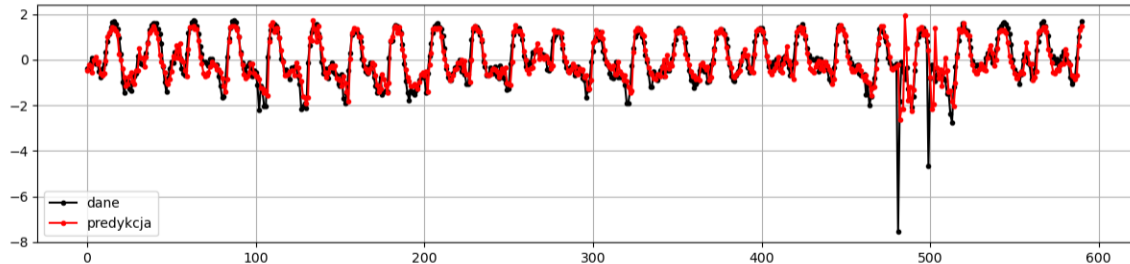
10 pomiarów w historii i 3 neurony w w. ukrytej

n_window, layers = 10, [3]



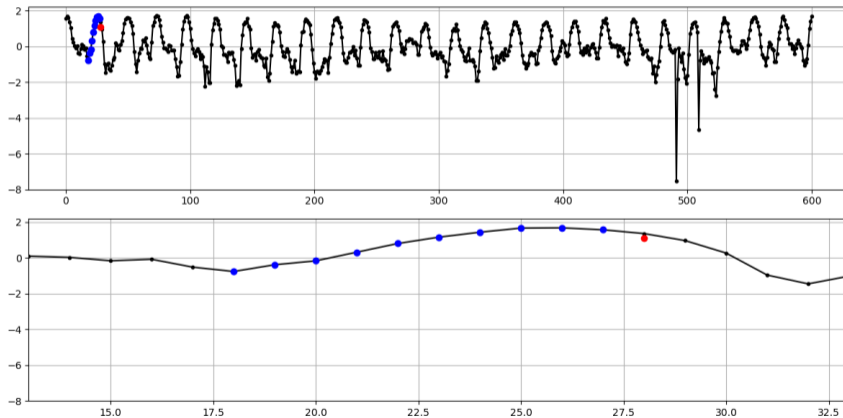
2 warstwy ukryte

`n_window, layers = 10, [3, 2]`



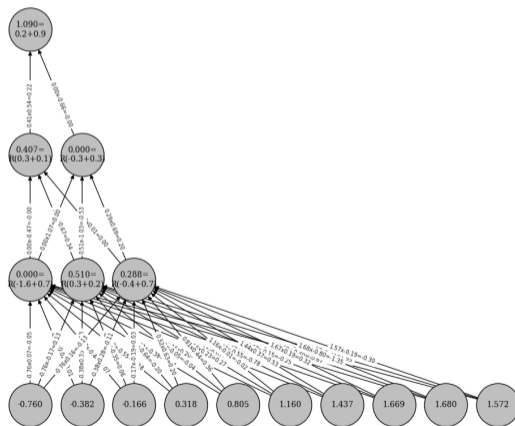
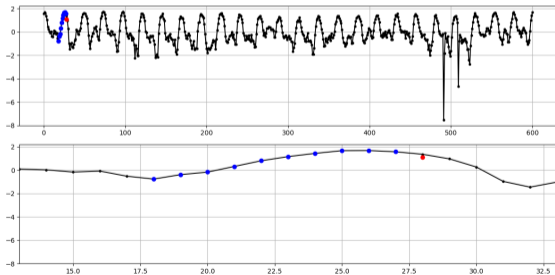
2 warstwy ukryte

n_window, layers = 10, [3, 2]

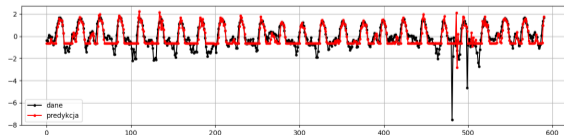
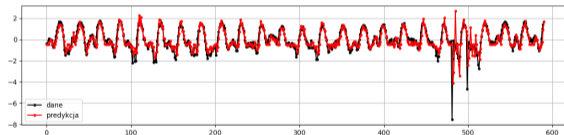
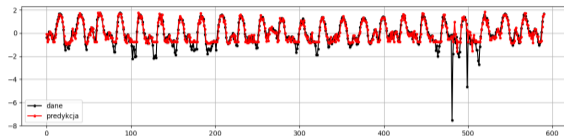


2 warstwy ukryte

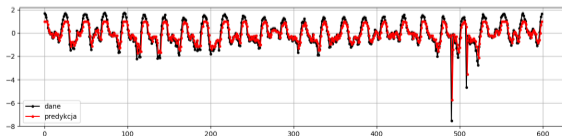
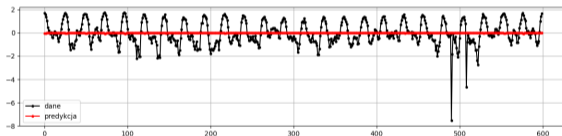
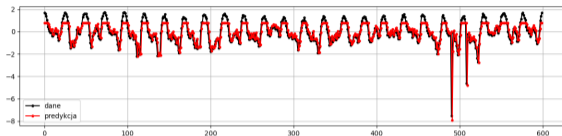
n_window, layers = 10, [3, 2]



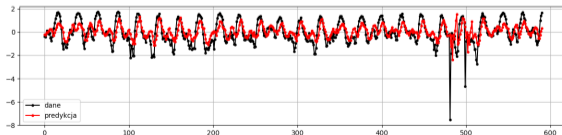
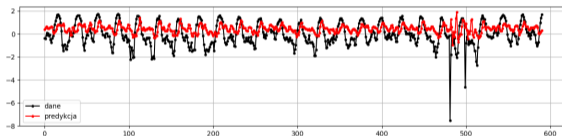
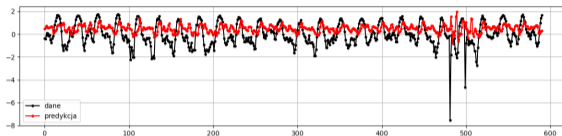
Wpływ wartości początkowych (10, [2])



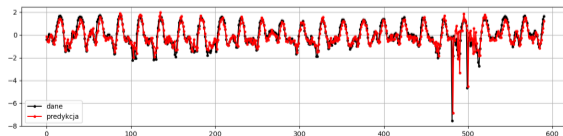
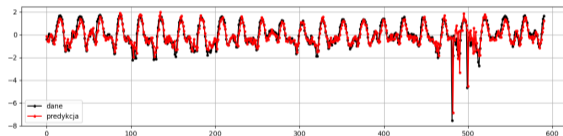
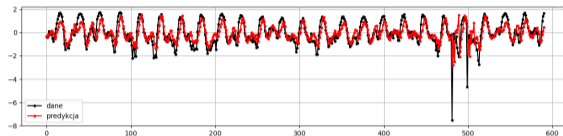
Wpływ wartości początkowych (1, [1])



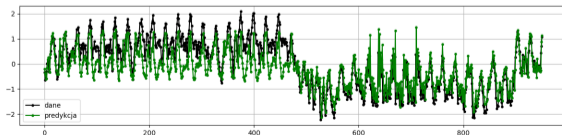
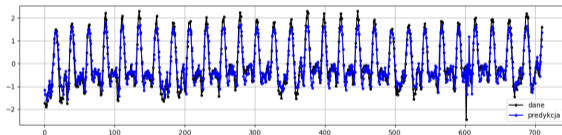
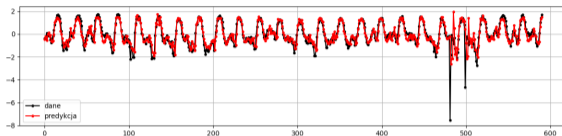
Wpływ liczby iteracji: 1, 10, 100



Wpływ liczby iteracji: 200, 1000, 10000



Inny sygnał?



Podsumowanie – wykrywanie anomalii

