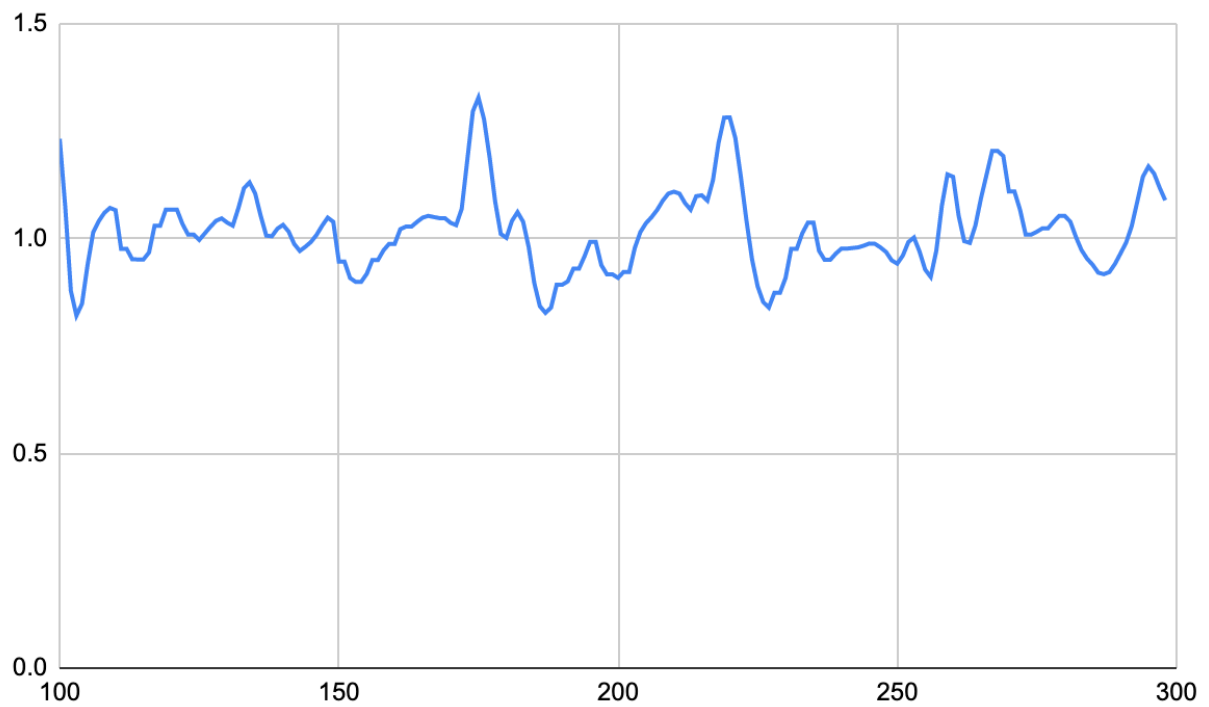


David Grim
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Lab report

1. I found the reliability of the step counter was dependent on the 4 threshold values. In particular the values should be small, but not too small, to be able to reliably detect the change in the acceleration magnitude. This makes sense because if the crest and trough are set too high the amount of times the algorithm will reach state 6 will decrease; as a result detecting fewer steps. I also noticed there is a relationship between the peak threshold values and the threshold values. The threshold values seem to work best when they are the same number, but opposite signs (such as 0.02 for posThr and -0.02 for negThr). The peak threshold values seem to work best when the values are close to opposite signs but not exactly opposite (such as 0.15 for posPeakThr and -0.10 for negPeakThr).
2. Set 2 has the correct values. The first set could not reliably detect when a step was occurring, and I believe this is because of the same reason I brought up in the previous question. When the values are too large the threshold for reaching state 6 becomes more difficult to achieve, and the step counter is not incremented as often. Set 2 has smaller values that are closer together, and because of this the algorithm is able to reach state 6 more frequently.

3. The axes are as they were described they should be, x is the acceleration magnitude, and y is the count of acceleration magnitude measurement.



4. Same axes as in question 3

