

Universidade Federal de Minas Gerais
Escola de Engenharia
Curso de Graduação em Engenharia de Controle e Automação



Aplicação de Reconhecimento de Padrões em Microcontrolador Embarcado

Relatório 3 de Atividades PFC1

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Sumário

1	Resumo
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2

1 Resumo

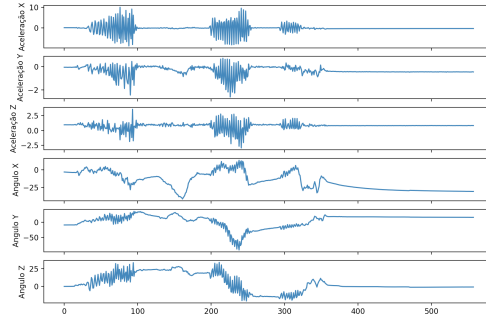


Figura 1: VibracaoX

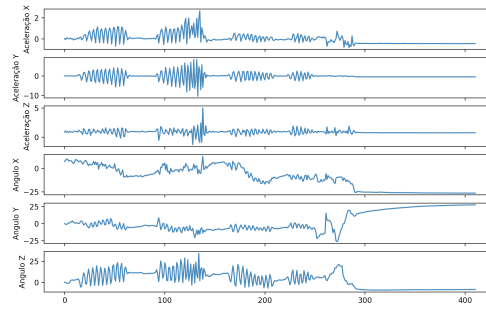


Figura 2: VibracaoY

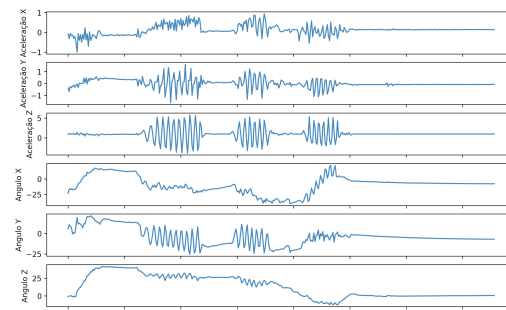


Figura 3: VibracaoZ

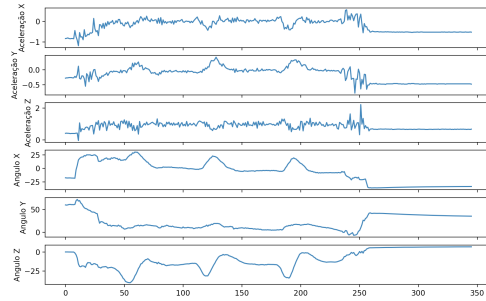


Figura 4: CirculoZ

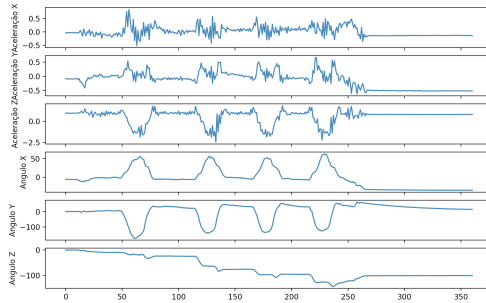


Figura 5: GiraeVoltaY

Seguindo os site <https://towardsdatascience.com/feature-engineering-on-time-series-data-transforming-signal-data-of-a-smartphone-accelerometer-for-72cbe34b8a60> temos a funcionalidade de feature engineering.

Nesse extrai um código em python capaz de calcular:

1. mean 2. standard deviation 3. average absolute deviation 4. minimum value 5. maximum value 6. difference of maximum and minimum values 7. median 8. median absolute deviation 9. interquartile range 10. negative values count 11. positive values count 12. number of values above mean 13. number of peaks 14. skewness 15. kurtosis 16. energy 17. average resultant acceleration 18. signal magnitude area

Desses irei fazer uma análise com os dados: Usarei apenas mean, median, number of peaks, energy, signal magnitude area, avg resultant