Group 12: Fall Detection

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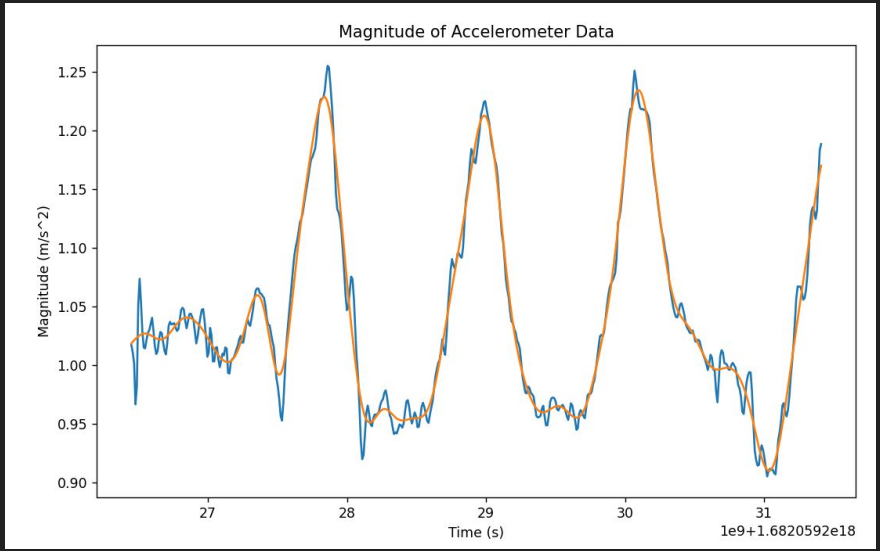
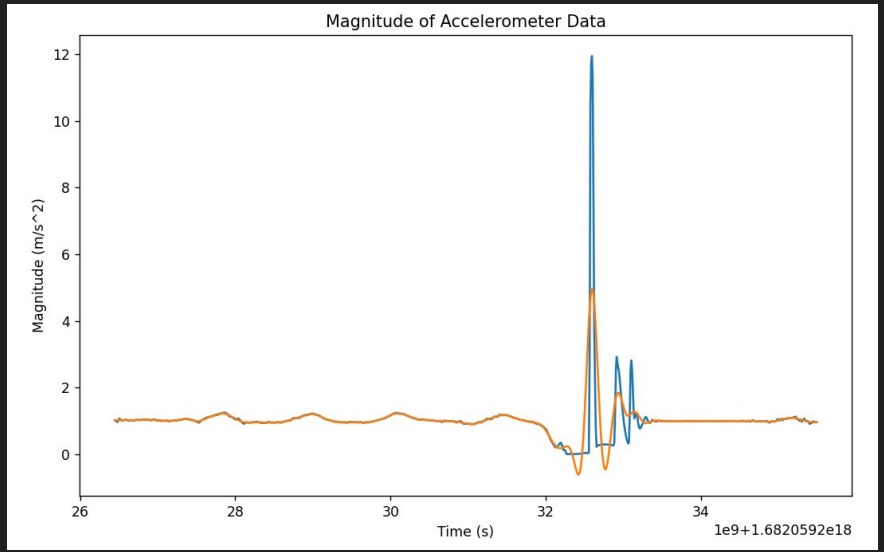
Project Description

- Detecting falls based on accelerometer magnitude data
- Three states
  - Before fall (walking, standing, etc.)
  - Fall itself
  - After fall (relatively little movement)
- Low pass filter applied to remove smaller repeating movements
- Sliding window that tracks mean, variance, and other features which is used to detect sharp, large peak
  - Also detects the lying relatively still at the end to confirm the fall

Project Progress

- Example below is walking, fall, then lying still
- Low pass filter smooths walking and other motions
- Data sets: walking, standing, walking then fall, standing then fall





Data sampling

- walking_falling_lying