

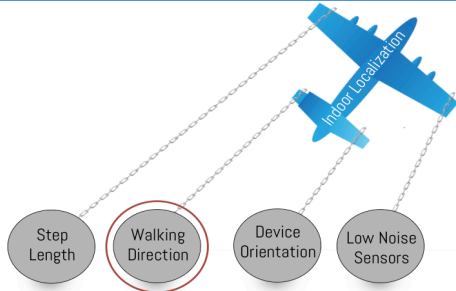


# WalkCompass:

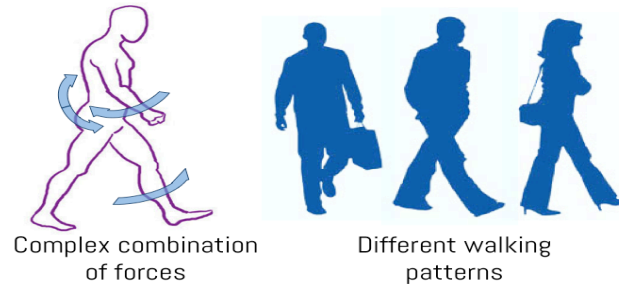
## I am a Smartphone and I can Tell my User's Walking Direction

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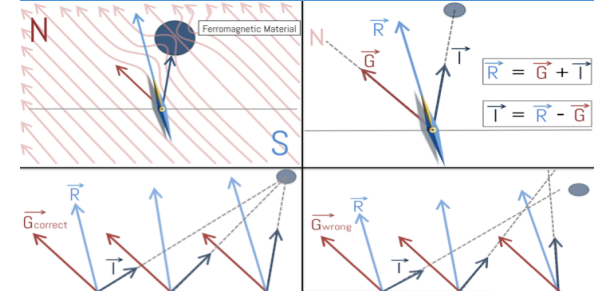
### I. Motivation



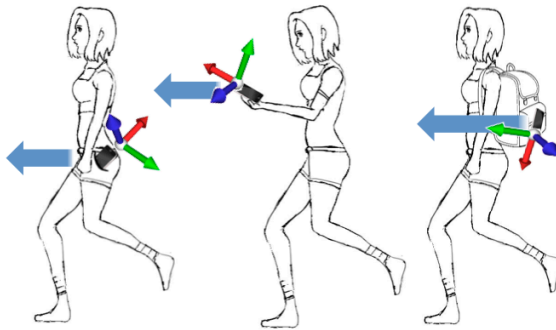
### IV. Challenges



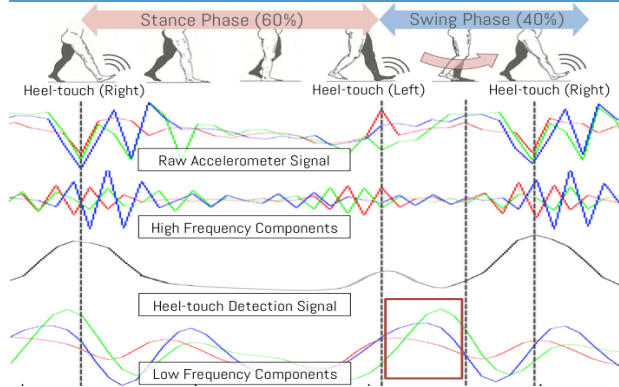
### VII. Compass Correction



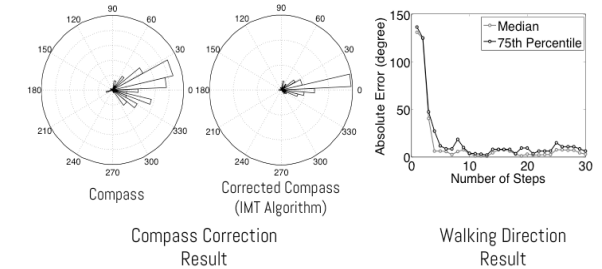
### II. Compass $\neq$ Walking Direction



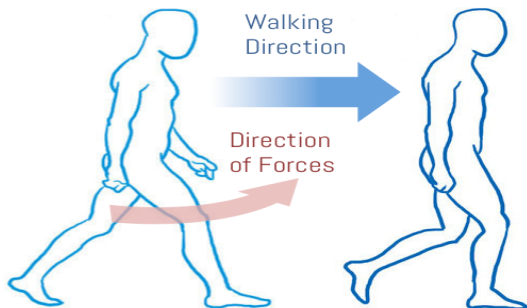
### V. Finding the Right Force



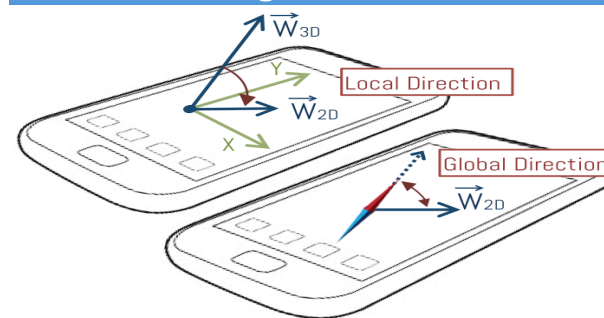
### VIII. Evaluation



### III. Our Approach: Force Analysis



### VI. Walking Direction Vector



### IX. Conclusion & Future Work

- WalkCompass can estimate walking direction from the inertial sensors, regardless of the orientation of the phone.
- We are working to enable WalkCompass for the phone-in-bag scenarios.