P3-H-58

Voluntary **gaze shifting** without visual input **leads to path deviations.**

Effect of voluntary gaze movement on gait steering control

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1 Intro

- Voluntary head rotations do not influence steering control in case of a visible target [1]
- But they seem to have a significant effect when there is no explicit visual target [4]
- The effect of voluntary gaze movement in the steering of gait has not yet been investigated.

2 Methods

- 5 participants (27 ± 4 years)
- Motion tracking of head position and orientation
- Electrooculography (EOG) to ensure participants followed instructions
- Walk in a straight line with:
  a) Gaze, head and walking direction aligned
  b) Head left/right, eyes aligned with walking direction
  c) Eyes left/right, head aligned with walking direction

3 Results

- Head turns with eyes open lead to path deviations up to 2 degrees
- Head turns with eyes closed lead to path deviations of up to 20 degrees
- Gaze rotation with eyes open leads to path deviations between 0.7 and 1.4 degrees
- Gaze rotation with eyes closed leads to deviations of up to 18 degrees

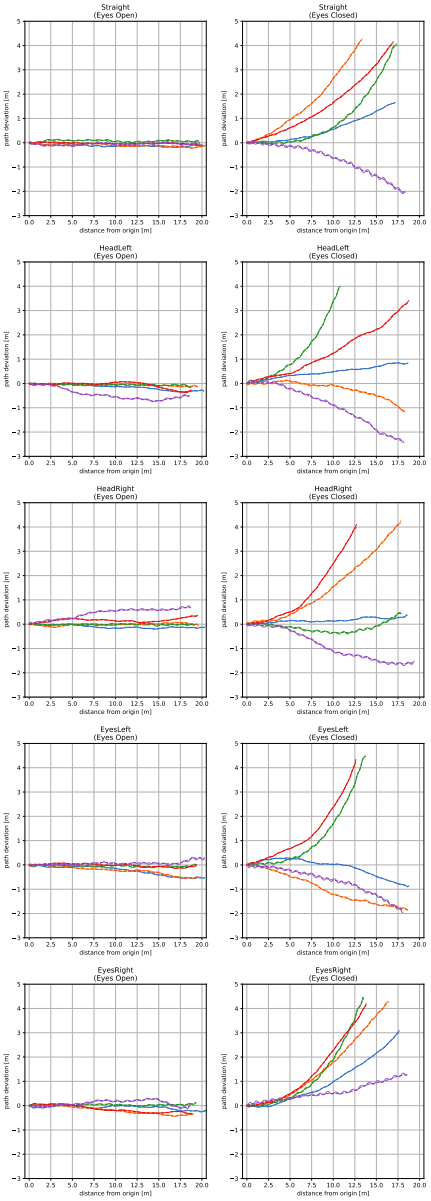
4 Conclusion

- Absence of visual target leads to path deviations
- Eye movement is compensated through deviations in the opposite direction
- Head rotation with eyes closed are in agreement with [4]

5 Future work

Should consider auditory perception, attention and multiple targets.

Figures



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References

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