GPS MEASUREMENT EXPERIMENTS

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EECE 5698 ROBOTICS SENSING AND NAVIGATION

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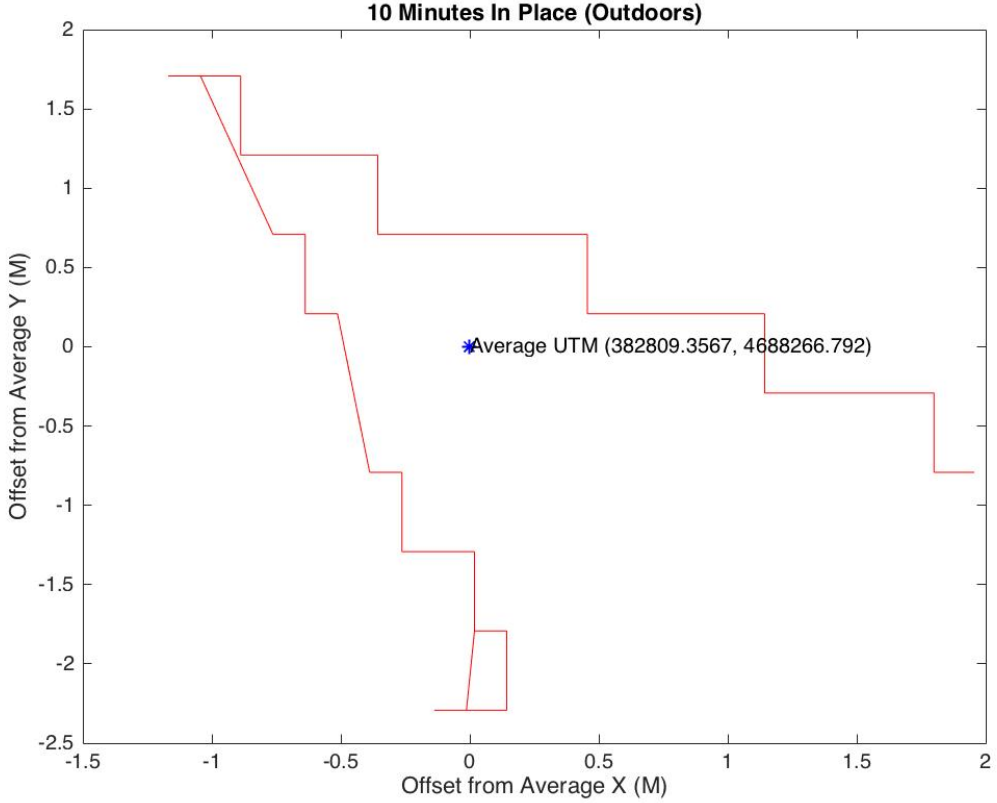
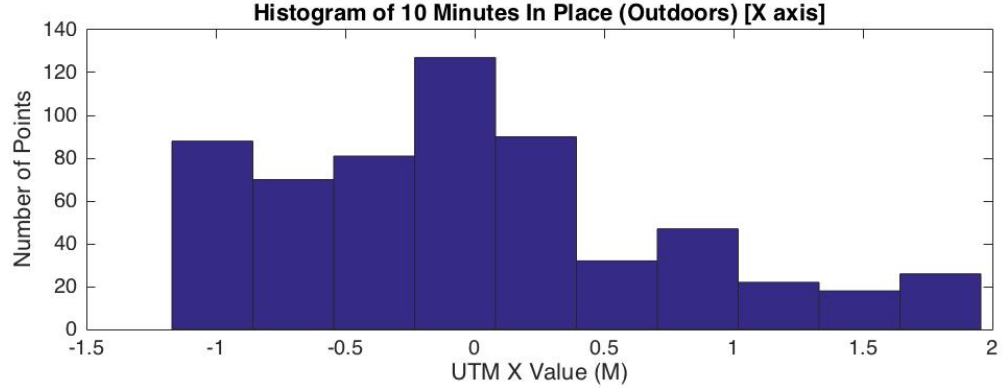
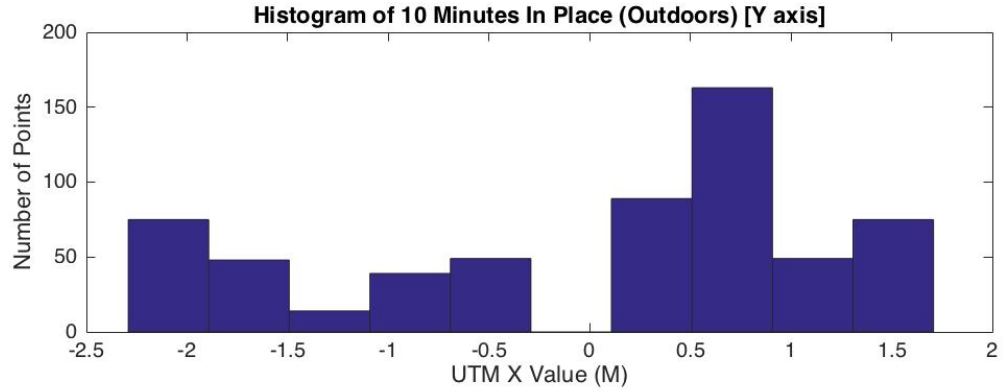
10 MIN IN PLACE OUTDOORS

- +/- 3 meters of accuracy when outside
- Errors fall where there were buildings, i.e. standing between Eagan and Dana, buildings are North West and South East. GPS errors are in same directions!

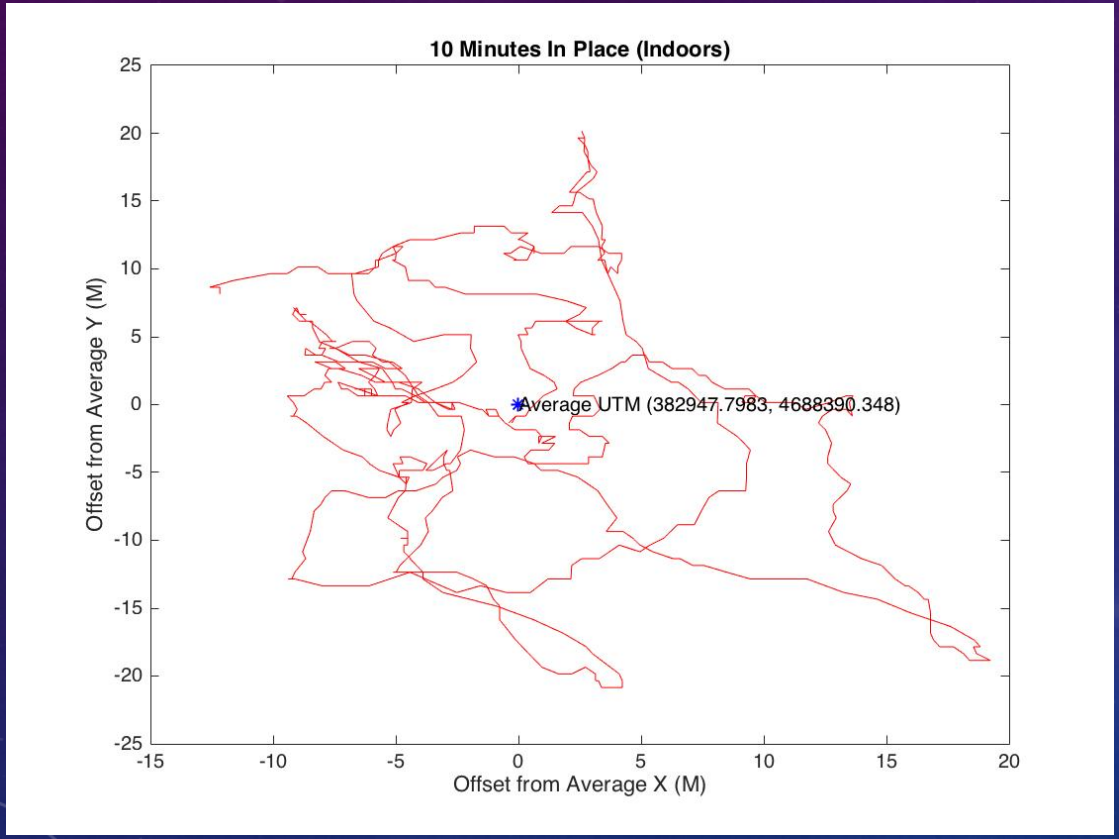


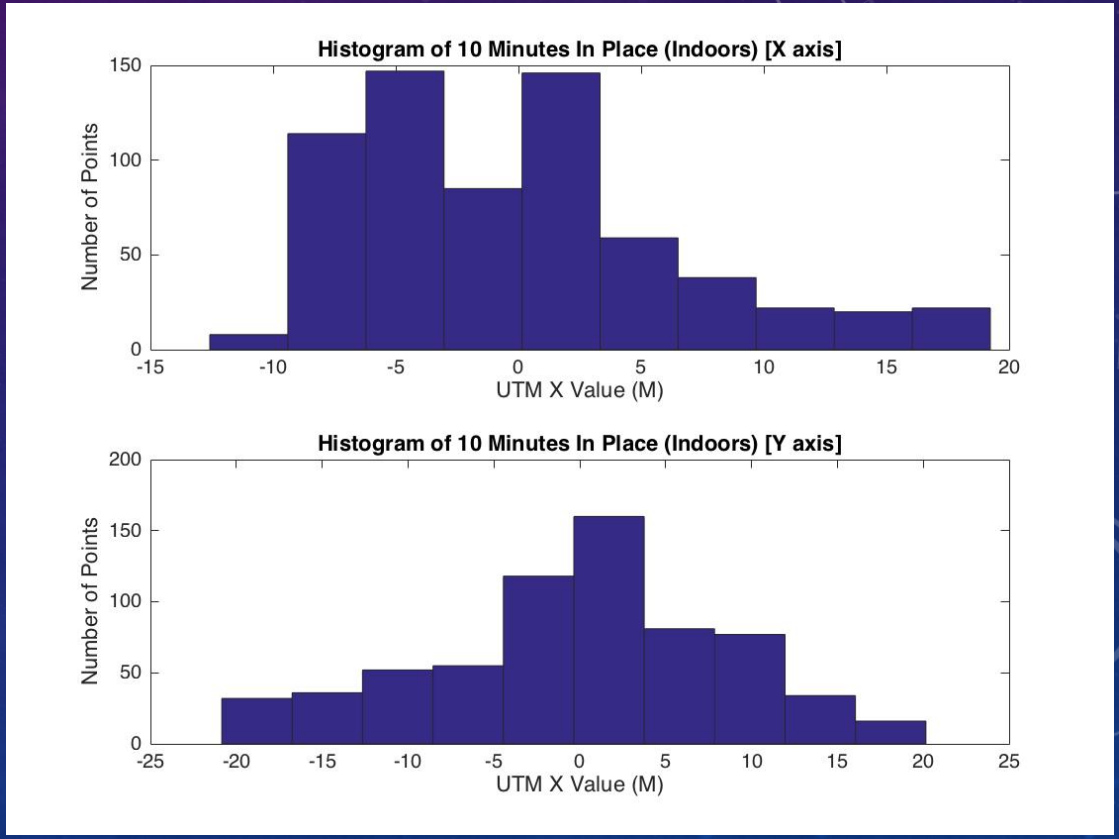




10 MIN IN PLACE INDOORS

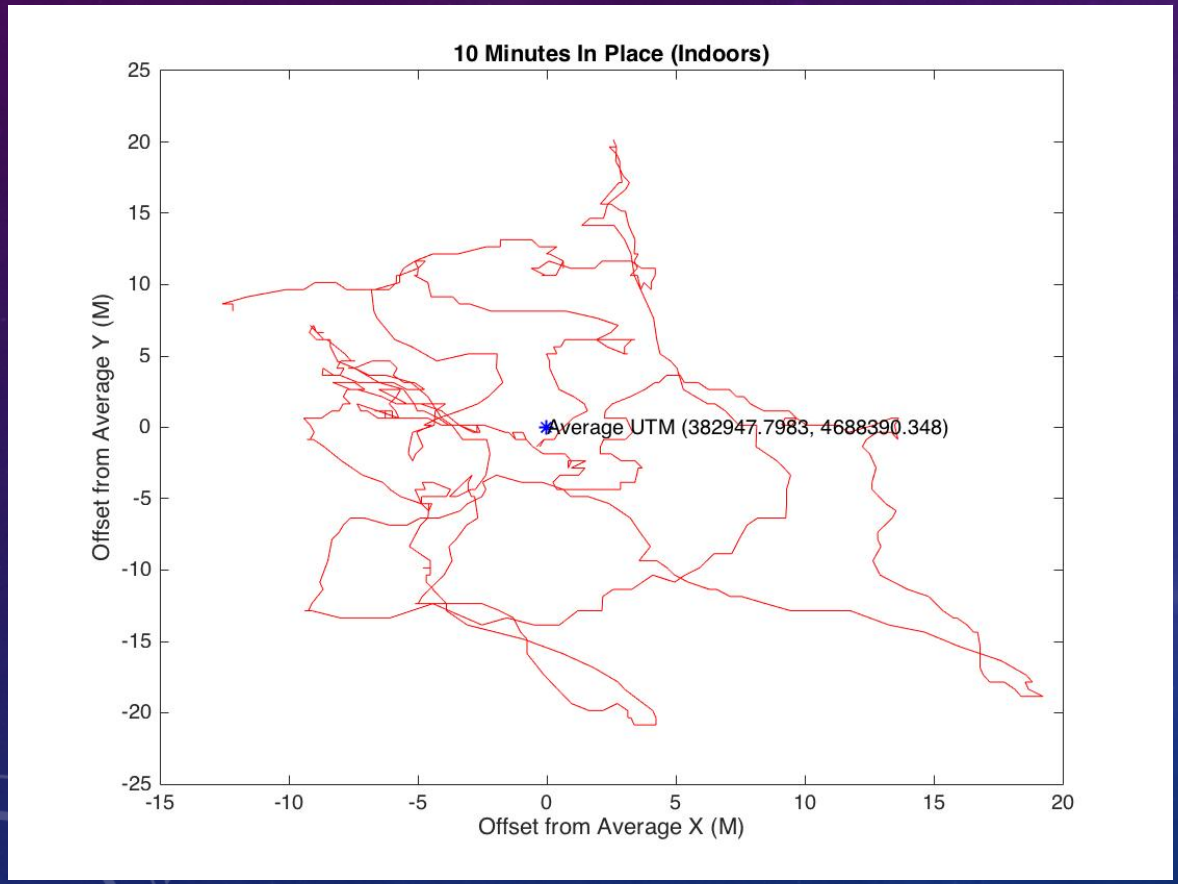
- Variation N/S direction is normally distributed
- Variation E/W is skewed toward the West
- +/- 20 m of error when inside in any direction

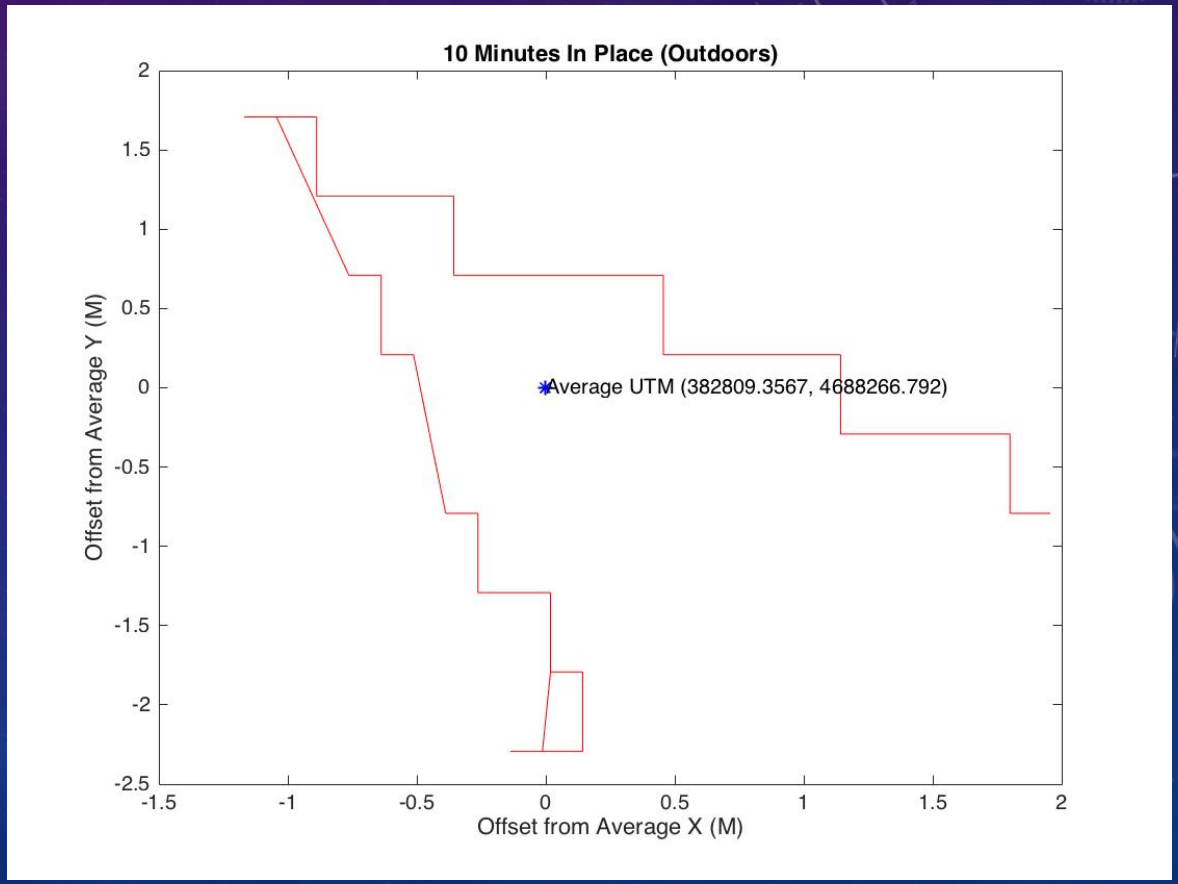




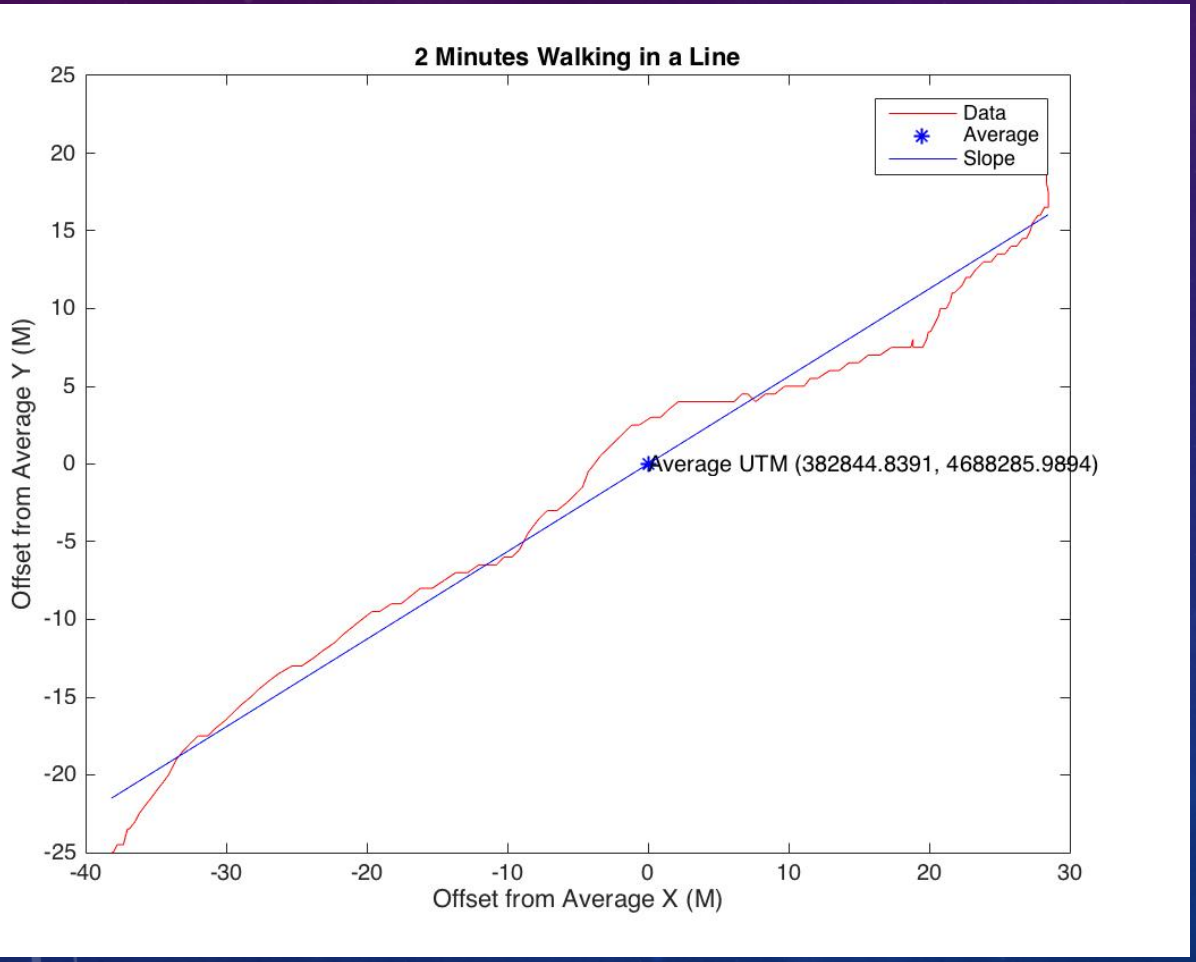
SIGNIFICANTLY GREATER VARIATION INDOORS

Error is significantly greater outside than inside.
Data is more skewed outdoors while more circular indoors





2 MIN WALKING IN A LINE



- Best fit line using least squares regression

- R^2 Value of . 976

- P Value of 3.07e-114