



**University of Stuttgart**  
Germany

# Simple Touch Prediction With Built-In IMUs

Felix Bühler, Benedict Steuerlein

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- Smartphones sizes are increasing steadily
- Whole front screen can not be reached without changing the grip
- Predict where users want to touch

# Related Work

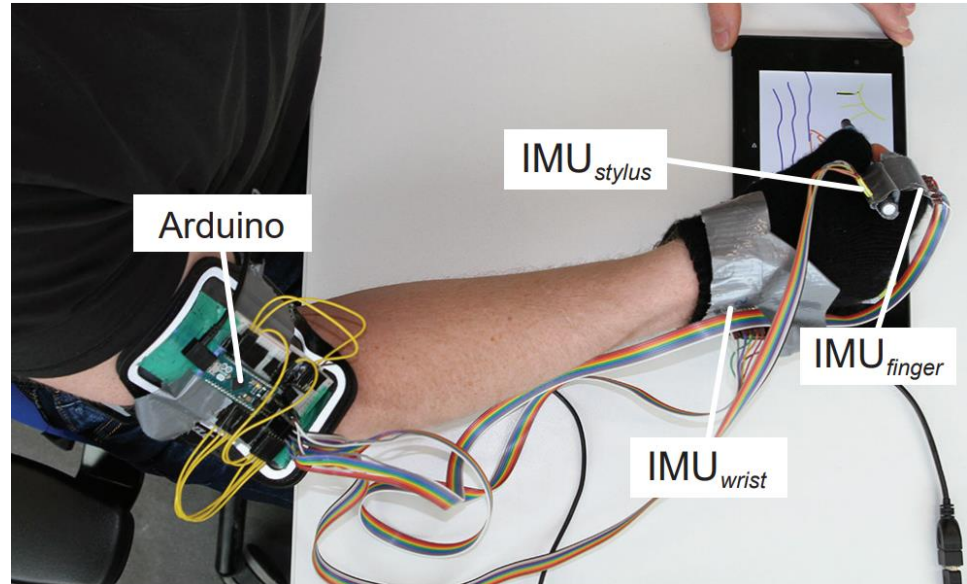
- 24 sensors on Back-of-Device (BoD)
- Grip shift on BoD to predict front-of-screen targeting



Mohd Noor, M. F., Ramsay, A., Hughes, S., Rogers, S., Williamson, J., & Murray-Smith, R. 28 frames later: predicting screen touches from back-of-device grip changes. In Proc. of SIGCHI '14 ACM.  
DOI: <http://dx.doi.org/10.1145/2556288.2557148>

# Related Work

- Combination of neural network and external IMU
- Predict future positions of writing trajectory
- Reduce input latency on touch screens

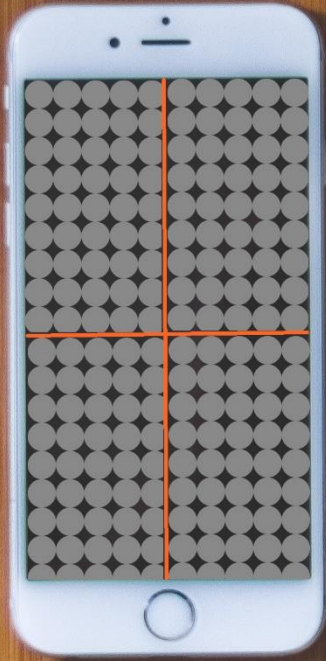


Le, H. V., Schwind, V., Göttlich, P., & Henze, N.. PredicTouch: A System to Reduce Touchscreen Latency using Neural Networks and Inertial Measurement Units. In Proc. of ACM '17 International Conference on Interactive Surfaces and Spaces.

DOI: <http://dx.doi.org/10.1145/3132272.3134138>

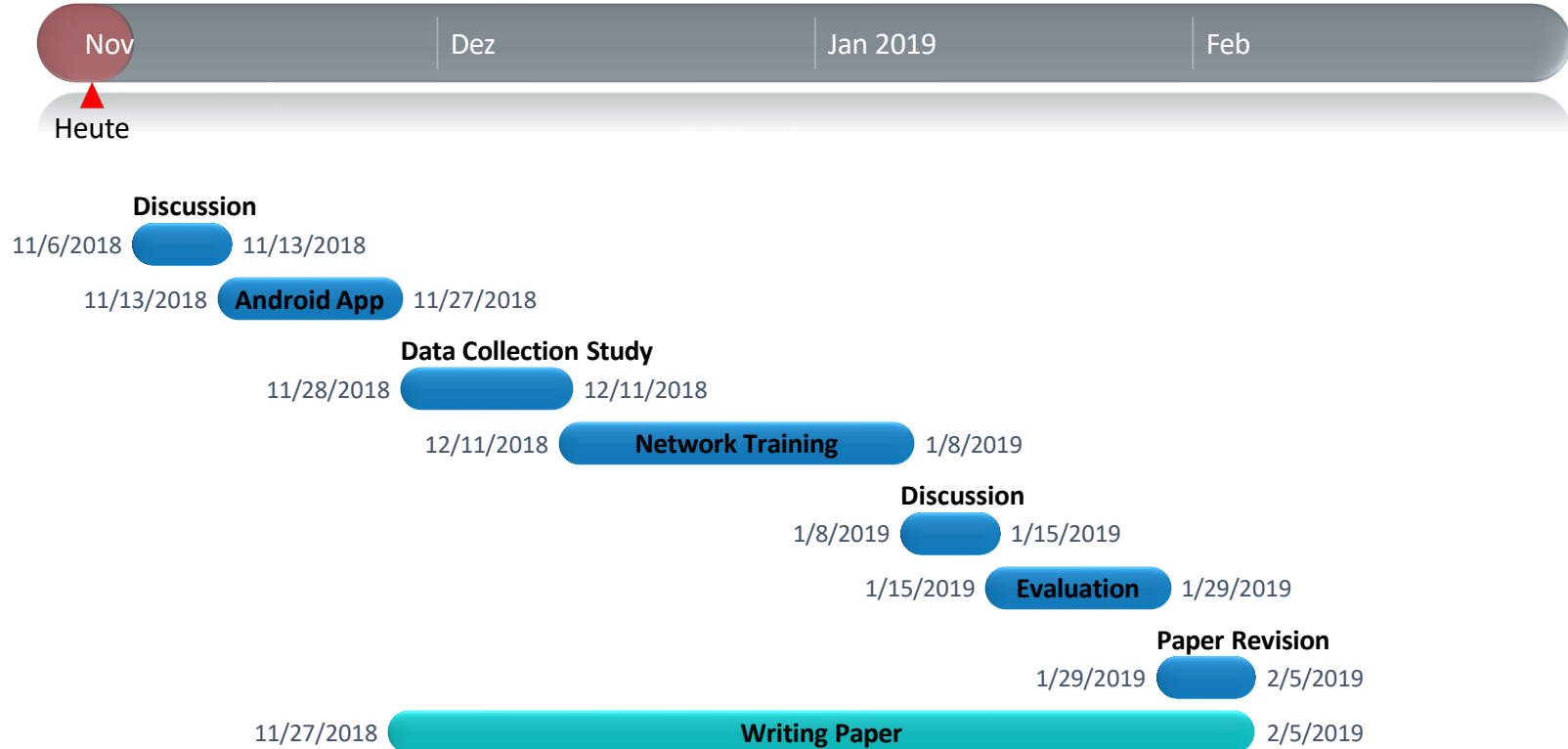


# Project Plan



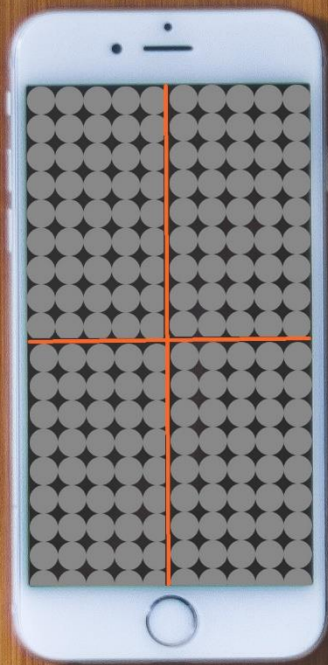
- Data collection study
- Training of a LSTM
- Evaluation app

# Agenda





# Questions



Data acquisition:

- How big should the targets be?
- How to treat targets close to the cross?

Study:

- How many participants?
- How many phones?