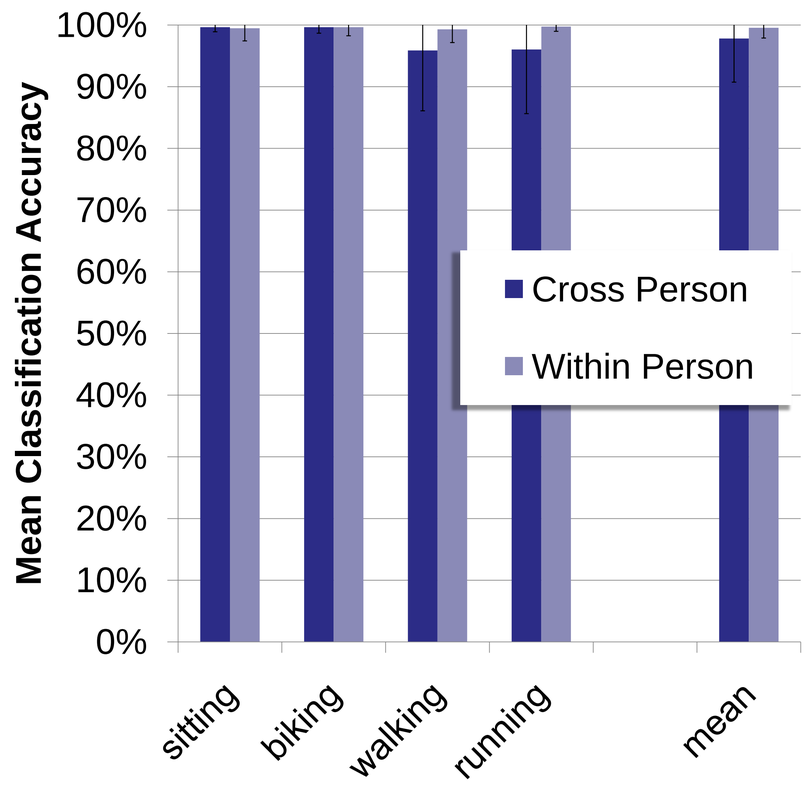
Exploratory Research

iLearn on the iPhone

Activity classification on commodity phones

iLearn provides open-source software for real-time human activity classification for any iPhone application

- Includes models for some common activity sets (e.g., exercise)
  - our software makes it easy to add activity context to iPhone applications
- Simple training of new activity classifiers
  - record labeled data with iPhone-based activity logger
  - instantly build a new classifier for a new set of activities



Classification accuracy results for offline hold-one-out experiments with cross-person and within-person models. Error bars represent standard deviation.

Ongoing Work

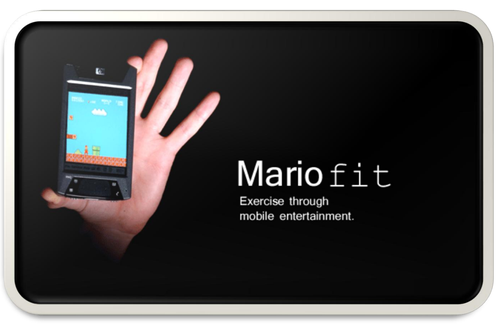
- Integration with iPhone Location Stack
  - richer activity data: distance run, hills climbed
  - more activities/higher recognition rates
- Integration with ActivityDesigner tool
  - allows for quick prototyping of mobile applications using activity & location context
  - quickly deploy new apps for field testing

Laboratory Study (n=8)

- Activities: sit, walk, run, & stationary bike
- Results
  - 99.5% accurate within person
  - 97.8% accurate cross person (no training)

Proof-of-Concept Applications

- facebook status: current activity & location
- Playing Super Mario with body movement



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