



# EdgeDroid

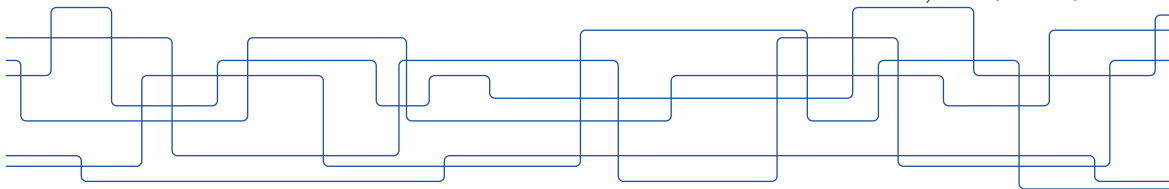
*An Experimental Approach to Benchmarking Human-in-the-Loop Applications*

M. Olguín Muñoz<sup>†</sup>, J. Wang<sup>‡</sup>, M. Satyanarayanan<sup>‡</sup> and J. Gross<sup>†</sup>

<sup>†</sup> KTH Royal Institute of Technology

<sup>‡</sup> Carnegie Mellon University

*HotMobile'19 Session 5: February 28<sup>th</sup> 2019, Santa Cruz, CA*

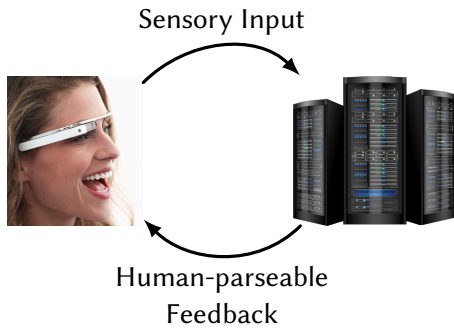


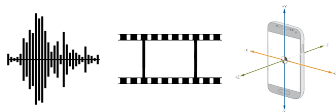
# Outline

- Introduction & Background
  - Experimentally Benchmarking Human-in-the-Loop
  - Conclusions
-

# Outline

- **Introduction & Background**
    - Human-in-the-Loop Applications
    - The Problem
  - Experimentally Benchmarking Human-in-the-Loop
  - Conclusions
-

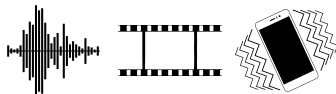


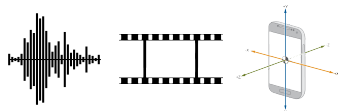


Sensory Input

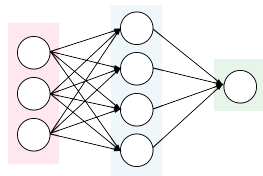


Human-parseable  
Feedback

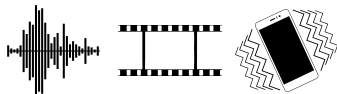




Sensory Input



Human-parseable  
Feedback



# The Problem

Benchmarking human-in-the-loop applications is HARD

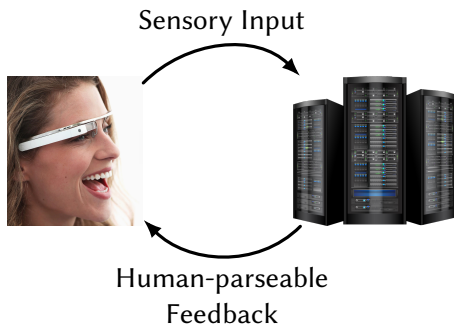
---

# Outline

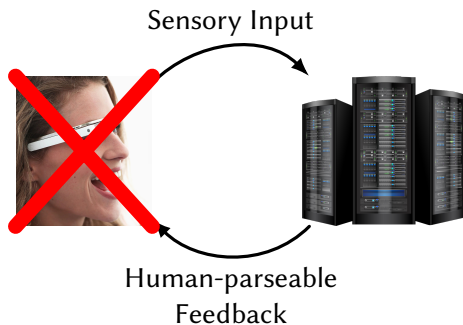
- Introduction & Background
  - Experimentally Benchmarking Human-in-the-Loop
    - Approach
    - Implementation
    - Evaluation
  - Conclusions
-



# Approach: Motivation



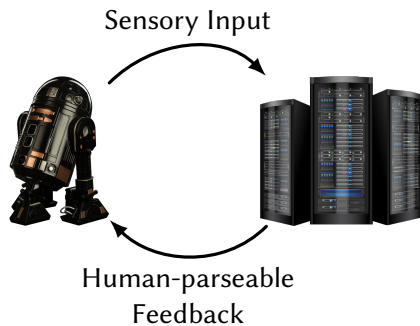
# Approach: Motivation



What if we could do away with the human user?

---

# Approach: Motivation



What if we could do away with the human user?

---

# EdgeDroid: Idea

- ▶ Generate realistic, real-time inputs.
- ▶ Correctly react to feedback.



# EdgeDroid: Idea

- ▶ Generate realistic, real-time inputs.
  - ▶ Trace of human-generated inputs.
- ▶ Correctly react to feedback.
  - ▶ Model of human interaction.



## EdgeDroid: Tracing

# Implementation

# Evaluation



# Outline

- Introduction & Background
  - Experimentally Benchmarking Human-in-the-Loop
  - Conclusions
-



# Thank you!

@molguin@kth.se

🐦 @molguin92

🌀 molguin92

