

# Online Learning of Music Preference

Yvonne Moh, **Peter Orbanz** and Joachim M. Buhmann

Department of Computer Science  
ETH Zurich

# Music Classification Problem

## Motivation: Hearing aid application

- Different sound types → different amplification
- Classifier controls amplification program
- Classification behavior adjustable by user

## Algorithmic requirements

- Online adaptation
- Sparse feedback
- Passivity
- Efficiency

# Approach

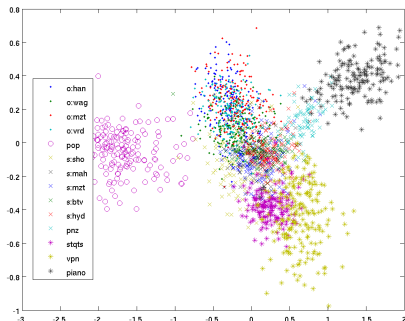
Combine online and semi-supervised strategies

## Online problem

- Additive expert ensemble
- Adapts only when feedback received

## Partial label problem

- Label propagation (graph-based)
- Propagate labels by discretized diffusion
- Hypothesizes labels passed to classifier



# Performance

