LittleMU: Enhancing learning Engagement Using Intelligent Interaction on MOOCs

Jie Tang¹, Tracy Xiao Liu¹, Zhengyang Song¹, Xiaochen Wang¹, Xia Jing¹, Jiezhong Qiu¹, Zhenhuan Chen¹, Chaoyang Li¹, Han Zhang¹, Liangmin Pan¹, Yi Qi¹, Wenzheng Feng¹, Xiuli Li¹, Jian Guan², Juanzi Li¹, and Maosong Sun¹

¹Tsinghua University, ²Beijing Muhua Tech Inc. (XuetangX.com)
Background

- MOOC: Massive Open Online Courses
  - edx
  - Udacity
  - Coursera
  - XuetangX:
    - Online in 2013
    - 8,000,000+ users, 1000+ courses
- The engagement rate is quite low
  - The average course completion rate is only 5%
LittleMU: Intelligent Interaction

1. User analysis
   - Behavior modeling
   - User Profiling

2. Course analysis
   - Incentive analysis
   - Course recommendation
   - Automated video navigation
   - Question answering

3. Content analysis
   - Concept extraction
   - Prerequisite relation mining

Behavior logs

Knowledge base

User Modeling

Intervention

Content Analysis
Intelligent Interaction

Course recommendation

Low frequency
- LDA training
- User clustering
- Course prerequisite modeling

High frequency
- Latent interest modeling
- Collaborative filtering

Recommendation result

Rule based adjustment

Automated video navigation

Let's begin with...
First, we introduce...
The example is that...
Next... capital assets... investment property...
THANK YOU