

GAIN: ANALYSIS OF IMPLICIT FEEDBACK ON SEMANTICALLY ANNOTATED CONTENT

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Overview

- Introduction and motivation
- Generic terminology
- Architecture
- Aggregations
- Conclusion and future work

Motivation

- Implicit feedback
 - Preference level
 - Personalization
- Interactions on semantically annotated objects
 - Web pages
 - TV news
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- Problem addressed in personalization tends to be algorithmically similar for most domains
- GAIN - General Analytics Interceptor

Generic Terminology

- Object
- Session
- User
- Preference Level
- Interaction
- Attribute

Architecture

- Tracking module
 - Google Analytics
 - REST API
- Application module
 - Import, export API
- Storage module
 - NoSQL
- Aggregation module
 - Map/Reduce
 - Aggregation framework
 - Semantic annotation
 - Tabular form

Preference / Aggregations

- Genetic Algorithm

- Symbolic regression
- Large amount of training data
- $(\ln(\text{po})+1)*\text{tsp}$

	po	tsp	pref. level
<i>obj1</i>	1	8	0.5
<i>obj2</i>	2	6	0.8

- Heuristically defined rules

- Micro-conversions
- Manual definition
- Skip: Interest = Interest - (time to end - current time)/total time
- Bookmark: Interest = 1

	skip	Book.	pref. level
<i>obj5</i>	1	0	0.7
<i>obj6</i>	0	1	1

- Association rule learning

- I:ZI Miner
- bookmark=yes and topic=Sport → preference=1

	topic	Book.	pref. level
<i>obj8</i>	Event	1	0
<i>obj9</i>	Sport	1	1

Aggregations

- On different levels
 - object, session, user
- Session level

	location	activity	pref. level
<i>obj1</i>	Berlin	Football	0.4
<i>obj2</i>	Berlin	Tennis	0.4
<i>obj3</i>	Vienna	Tennis	0.6

- Result: (Vienna, Tennis) ?
 - (Berlin=0.8, Football=0.4, Tennis=1.0, Vienna=0.6)
- (Berlin, Tennis)

Conclusion and Future Work

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 - <http://wa.vse.cz>

Feedback

Thank you!

Questions, comments, ideas?

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