Presentation

Recommender Systems: an overview

Learning outcomes

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After this course you will be able to:

- Develop foundational knowledge on Recommendation systems.
- Understand a wide variety of Recommendation system algorithms.
- Understand how to design and evaluate Recommendation systems in different application domains.
- Apply the learned skills to design Recommendation engines using real datasets, evaluate the designed engines and report results.

Prerequisites

- **Familiarity** with Machine Learning,
- **Knowledge** of Algebra and Calculus,
- **Prior experience** with Python programming language.

The Course

TOTAL estimated workload: 50 hrs

- Lecture hours: 3 hours per day, morning for 4 days (total of 12 hours)
- Practical work: 3 hours per day, afternoons for 4 days (total of 12 hours)
- Homework: 25 hours writing a report + discussions, feedback and work presentations.

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Course Instructor:

- Dr. Bereket A. Yilma

Guest lecturers:

- Dr. Ludovik Coba (*Expedia Group, United Kingdom*)
- Dr. Lei Li (H*ong Kong Baptist University (HKBU)*)
- Yuhui Zhang (*Amazon AWS AI Labs & Stanford University, USA*)
- Victor Silva (OpenAI & University of Alberta, Canada)

RECOMMENDER SYSTEMS

Recommender Systems: an overview

Belval campus (MSA), University of Luxembourg

December 05 - 09, 2022.

uni.lu UNIVERSITÉ DU LUXEMBOURG

Dr. Bereket YILMA

University of Luxembourg, Luxembourg

Course Instructor

Dr. Ludovik Coba

Expedia Group, United Kingdom

Invited talk 1

Explainability in Recommender Systems

Yuhui Zhang

Amazon AWS AI Labs & Stanford University, USA

Invited talk 2

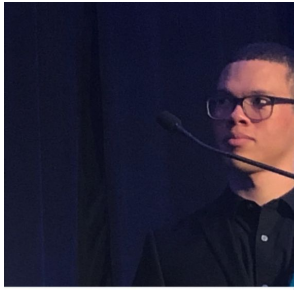
Language models in Recommender Systems

Dr. Lei Li

Hong Kong Baptist University (HKBU)

Invited talk 3

Improving Personalized Explanation Generation through Visualization



Victor Silva

OpenAI & University of Alberta, Canada

Invited talk 4

DALL-E-2, realistic images and art generation from text prompt

Monday (05.12.22) MSA 4.330		Tuesday (06.12.22) MSA 2.210		Wednesday (07.12.22) MSA 2.210		Thursday (08.12.22) MSA 4.330		Friday (09.12.22) MSA 4.330	
9:00 - 9:30	Welcome & Introduction	9:00 - 9:30	Recap	9:00 - 9:40	**Invited Talk** Language models in Recommender Systems *(Yuhui Zhang)*	9:00 - 9:45	**Project Contd..**	9:00 - 11:00	**Project Contd..**
9:30 - 10:30	**Lecture** Introduction to Recommender Systems (RecSys) *(B.A Yilma)*	9:30 - 10:30	**Lecture** Reinforcement Learning for Recommender Systems *(B.A Yilma)*			9:45 - 10:00	Break		
10:30 - 10:45	Break	10:30 - 10:45	Break	9:40 - 10:30	**Project Contd..** Scoping & data	10:00 - 11:00	**Invited Talk** Improving Personalized Explanation Generation through Visualization *(Lei Li)*		
10:45 - 12:00	**Lecture** The RecSys pipeline: A case-study approach *(B.A Yilma)*	10:45 - 12:00	**Lecture: Contd..** Reinforcement Learning for Recommender Systems *(B.A Yilma)*	10:45 - 12:00	**Project Contd..** Problem formulation	11:00 - 12:00	**Project Contd..**		
12:00 - 14:00	**Lunch Break**	**12:00 - 14:00**	**Lunch Break**	**12:00 - 14:00**	**Lunch Break**	**12:00 - 14:00**	**Lunch Break**	**11:00 - 13:45**	**Lunch Break**
14:00 - 15:30	**Lecture** Multi-Stakeholder aware RecSys *(B.A Yilma)*	14:00 - 15:30	**Contd..** Project Topic discussions	14:00 - 15:00	**Invited Talk** Explainability in Recommender Systems *(Ludovik Coba)*	14:00 - 15:30	**Project Contd..**	1 3:45 - 14:15 14:15 - 14: 45	**P4 (Group 1)** **P4 (Group 2)**
15:30 - 15:45	Break	15:30 - 15:45	Break	15:00 - 15:15	Break	15:30 - 15:45	Break	14:15 - 15:00	Break
14:45 - 16:30	Project Group formation & Topic discussions	15:45 - 17:00	**P1 (Student Presentation & Feedback)**	15:15 - 16:15	**Project Contd..** Problem formulation	15:45 - 16:15	**Project Contd..**	15:00 - 15: 30 15:30 - 16:00	**P4 (Group 3)** **P4 (Group 4)**
				16:15 - 17:00	**P2 (Student Presentation & Feedback)**	16:15 - 17:00	**P3 (Student Presentation & Feedback)**	16:00 - 17: 00	**Invited Talk** DALL-E-2, realistic images and art generation from text prompt *(Victor Silva)*

Resources

- Lecture Slides
- Invited talks
- Jupyter Notebooks
- Additional reading

GitHub