

Curriculum Vitæ of Emre Yalcin



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[Academic Page](#) - [Publons Profile](#) - [Scopus Profile](#) - [Google Scholar Page](#)

Research Interest

I work in the fields of recommender systems, information filtering, and machine learning. My current research mainly focuses on revealing and alleviating challenges of popularity bias and other potential bias issues in recommender systems.

Education

PhD in Computer Engineering Eskisehir Technical University, Turkey

Advisor: Assoc. Prof. Dr. Alper Bilge 11/2020

Dissertation: Novel automatic group identification and preference aggregation methods for group recommender systems

Cumulative GPA: 3.78 / 4

MSc in Computer Engineering Anadolu University, Turkey

Advisor: Assoc. Prof. Dr. Alper Bilge 07/2016

Thesis: Binary-data multi-criteria recommender systems based on naïve Bayes classifier

Cumulative GPA: 3.63 / 4

BSc in Computer Engineering Istanbul University, Turkey

Cumulative GPA: 2.83 / 4 06/2012

Experience

Associate Professor Dr. Sivas Cumhuriyet University
Department of Computer Engineering 08/2023-current

Assistant Professor Dr. Sivas Cumhuriyet University
Department of Computer Engineering 11/2021-08/2023

Research Assistant Sivas Cumhuriyet University
Department of Computer Engineering 02/2018-11/2021

Research Assistant Anadolu University
Department of Computer Engineering 02/2014-02/2018

Research Assistant Yozgat Bozok University
Department of Computer Engineering 09/2012-01/2014

Research Visits

Visiting Researcher (Erasmus Programme) Yarmouk, Jordan
Yarmouk University 03/2019

Visiting Researcher (Erasmus Programme) Prizren, Kosovo
University of Prizren Ukshin Hoti 03/2022

Visiting Researcher (Erasmus Programme) Krakow, Poland
AGH University of Krakow 05/2024

Teaching & Supervision

Lecturer

1. Introduction to Databases (undergrad)
2. Algorithms and Programming (undergrad)
3. Database Design and Application (undergrad)
4. Fundamentals of Algorithm and Programming (undergrad)
5. Parallel Programming (undergrad)
6. Introduction to Recommender Systems (grad)

Supervision

1. Yucel Tacli, Developing a new user-centered method for the popularity bias problem of recommendation algorithms. M.Sc. in Computer Engineering (2024), Sivas Cumhuriyet University.
2. Osman Alper Misirli, Analyzing the effects of popularity bias on beyond-accuracy recommendation quality in user-neighborhood-based collaborative filtering algorithms. M.Sc. in Computer Engineering (2023), Akdeniz University.
3. Mert Gulsoy, Analyzing effects of random perturbation approaches on the popularity bias issue of recommendation algorithms and developing novel fake rating injection-based solutions. PhD in Computer Engineering (2024), Akdeniz University.

Skills

Language

Yökdil (English) by OSYM
Score = 90.00

September, 09, 2021

Programming

Python, Java, C/C++, Matlab, C#, SQL, Asp.Net

Projects

Manager

1. Investigating potential biases towards blockbuster items in ranking-based recommendations and developing a novel method to mitigate its adverse effects
Sivas Cumhuriyet University, Grant No. M-2021-811 05/2021-08/2023.
2. Developing novel methods to mitigate the adverse effects of the popularity bias problem in recommender systems
TUBITAK, Grant No. 122E040 06/2022-current.

Researcher

1. Binary-Data Multi-Criteria Recommender Systems Based On Naïve Bayes Classifier
Anadolu University, Grant No. 1508F588 12/2015-08/2016.
2. Developing Novel Grouping and Aggregation Techniques for Group Recommender Systems
Sivas Cumhuriyet University, Grant No. M-759 03/2019-03/2020.

Publications

SCI & SCI-E indexed Journals

1. Aydemir, S.B., Onay, F.K., and Yalcin, E. (2024), **Empowered chaotic local search-based differential evolution algorithm with entropy-based hybrid objective function for brain tumor segmentation**, accepted for publication at *Biomedical Signal Processing and Control*. Journal quartile (WoS): Q1
2. Yalcin, E., and Bilge, A. (2024). **A novel target item-based similarity function in privacy-preserving collaborative filtering**. *The Journal of Supercomputing*, 1-29. Journal quartile (WoS): Q2
3. Gulsoy M., Yalcin, E., and Bilge, A., **Robustness of privacy-preserving collaborative recommenders against popularity bias problem**, *PeerJ Computer Science*, 9, e1438, 2023. Journal quartile (WoS): Q1
4. Kaya, T., Yalcin, E., and Kaleli, C., **A novel classification-based shilling attack detection approach for multi-criteria recommender systems**, *Computational Intelligence*, 39 (3), 499-528, 2023. Journal quartile (WoS): Q3

5. Yalcin, E. and Bilge, A., **Popularity bias in personality perspective: An analysis of how personality traits expose individuals to the unfair recommendation**, *Concurrency and Computation: Practice and Experience*, 35 (9), e7647, 2023.
Journal quartile (WoS): Q2
6. Fakhar M.Z., Yalcin E., and Bilge, A. **A survey of smart home energy conservation techniques**, *Expert Systems with Applications*, 213, 118974, 2023.
Journal quartile (WoS): Q1
7. Yalcin, E. and Bilge, A., **Evaluating unfairness of popularity bias in recommender systems: A comprehensive user-centric analysis**, *Information Processing & Management*, 59 (6), 103100, 2022.
Journal quartile (WoS): Q1
8. Yalcin E., **Exploring potential biases towards blockbuster items in ranking-based recommendations**, *Data Mining and Knowledge Discovery*, 36, 2033–2073, 2022.
Journal quartile (WoS): Q1
9. Yalcin, E. and Bilge, A., **Treating adverse effects of blockbuster bias on beyond-accuracy quality of personalized recommendations**, *Engineering Science and Technology, an International Journal*, 33, 101083, 2022.
Journal quartile (WoS): Q1
10. Fakhar M.Z., Yalcin E., and Bilge, A. **IESR: Instant Energy Scheduling Recommendations for Cost Saving in Smart Homes**, *IEEE Access*, 10, 52178–52195, 2022.
Journal quartile (WoS): Q2
11. Yalcin, E. and Bilge, A., **Investigating and counteracting popularity bias in group recommendations**, *Information Processing & Management*, 58 (5), 102608, 2021.
Journal quartile (WoS): Q1
12. Yalcin, E. and Bilge, A., **Novel automatic group identification approaches for group recommendation**, *Expert Systems with Applications*, 174, 114709, 2021.
Journal quartile (WoS): Q1
13. Yalcin, E., Ismailoglu F., and Bilge, A., **An entropy empowered hybridized aggregation technique for group recommender systems**, *Expert Systems with Applications*, 166, 114111, 2021.
Journal quartile (WoS): Q1
14. Yalcin, E. and Bilge, A., **Binary multicriteria collaborative filtering**, *Turkish Journal of Electrical Engineering & Computer Sciences*, 28 (6), 3419–3437, 2020.
Journal quartile (WoS): Q4

Other Journals

1. Dogan O., Yalcin E., and Hızıroglu, O.A. (2024), **Digitalisation for Enhancing Reading Habits: The Improved Hybrid Book Recommendation System with Genre-Oriented Profiles**, accepted for the publication at *Library Management*.
2. Yalcin E., **Effects of neighborhood-based collaborative filtering parameters on their blockbuster bias performances**, *Sakarya University Journal of Computer and Information Sciences*, 5 (2) , 157–368, 2022.
3. Yalcin E., **Collaborative filtering algorithms' bias towards highly-liked items**, *BSEU Journal of Science*, 8 (1) , 279–291, 2021.
4. Yalcin, E. and Bilge, A., **A personality-based aggregation technique for group recommendation**, *Eskişehir Technical University Journal of Science and Technology A-Applied Sciences and Engineering*, 21 (4), 486–498, 2020.

International Conferences

1. Yalcin E., **An empirical analysis of how users with different genders are not equally affected by the recommendations**, *6th International Conference on Engineering Technologies*, 17–19 November 2022, Konya, Turkey.

2. Tacli Y., Yalcin E., and Bilge A., **Novel approaches to measuring the popularity inclination of users for the popularity bias problem**, *6th International Symposium on Multidisciplinary Studies and Innovative Technologies*, 20–22 October 2022, Ankara, Turkey.
3. Yalcin E., **PopHybrid: A Novel Item Popularity-aware Hybrid Approach For Long-tail Recommendation**, *4th International Congress on Human-Computer Interaction, Optimization and Robotic Applications*, 9–11 June 2022, Ankara, Turkey.
4. Yalcin E., **The unfairness of collaborative filtering algorithms' bias towards blockbuster items**, *3rd International Conference on Artificial Intelligence and Applied Mathematics in Engineering*, 1–3 October 2021, Antalya, Turkey.
5. Yalcin E., **Blockbuster: A new perspective on popularity-bias in recommender systems**, *6th International Conference on Computer Science and Engineering*, 15 - 17 September 2021, Ankara, Turkey.
6. Yalcin, E., Yuksek A.G., and Bilge, A., **An empirical evaluation of aggregation techniques used in group recommender systems**, *8th International Conference on Advanced Technologies*, Sarajevo, Bosnia and Herzegovina, 2019.
7. Yalcin, E., **A new neighborhood selection method for collaborative filtering recommender systems**, *International Conference on Research in Education & Science*, Mugla, Turkey, 2016.

Articles under review

1. Tacli, Y., Yalcin, E., and Bilge, A., **Duor: Dynamic user-oriented re-ranking treatment method for the popularity bias issue of the recommendation algorithms**, submitted to *International Journal of Human - Computer Studies*.
Journal quartile (WoS): Q1
2. Yalcin E. and Kaleli C., **Secure and Reliable Trust-Based Predictions on Distributed Data: A Privacy-Centric Approach**, submitted to *International Journal of Human - Computer Studies*.
Journal quartile (WoS): Q1
3. Gulsoy M., Yalcin, E., and Bilge, A., **EquiRate: Balanced rating injection approach for popularity bias mitigation in recommender systems**, submitted to *PeerJ Computer Science*.
Journal quartile (WoS): Q1

Academic Services

Reviewer for SCI & SCI-E indexed Journals

- Expert Systems with Applications (20)
- Information Processing & Management (4)
- Knowledge and Information Systems (3)
- Pamukkale University Journal of Engineering Sciences (3)
- Journal of Intelligent Information Systems (2)
- Behaviour & Information Technology (1)
- Cluster Computing (1)
- Computer Communications (1)
- Expert Systems (1)
- IEEE Access (1)
- Knowledge-Based Systems (1)
- Peerj Computer Science (1)
- Turkish Journal of Electrical Engineering & Computer Sciences (1)
- User Modeling and User-adapted Interaction (1)