

CURRICULUM VITAE

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EDUCATION

- Ph.D., Intelligent Systems Program, Jul. 2016
· University of Pittsburgh, Pittsburgh, PA
- M.Sc., Intelligent Systems Program, Jan. 2013
· University of Pittsburgh, Pittsburgh, PA
- M.Sc., Computer Engineering (Software), Feb. 2009
· University of Tehran, Tehran, Iran
- B.Sc., Computer Engineering (Software), Feb. 2005
· Sharif University of Technology, Tehran, Iran

RESEARCH INTERESTS

I am broadly interested in application of Machine Learning in Recommender Systems, Educational Data Mining, and Social Networks. My research is focused on finding creative ways to use external information in these problems, adopting approaches such as Transfer Learning, Tensor Factorization, and Topic Models. I particularly enjoy interdisciplinary and collaborative research. Here is a more detailed list of my research interests:

- Recommender Systems, Cross-Domain Recommendation, External Information Usage in Collaborative Filtering, Community-Based Recommender Systems
- Educational Data Mining, Predicting Student Performance, Concept Mining, Educational Sequencing
- Social Network Analysis, Multi-Dimensional Community Detection in Social Networks, Scholar Networks

RESEARCH EXPERIENCE

- *Graduate Student Researcher, Personalized Adaptive Web Systems (PAWS) Lab*, University of Pittsburgh, PA Sep. 2009-current
 - Working under supervision of Dr. Peter Brusilovsky on the following projects:
 - * Cross-domain recommender systems: researched on cross-domain collaborative filtering in cold-start setting; developed a framework for domain selection for cross-domain recommendation; designed a cross-domain recommender based on canonical correlation analysis
 - * Personalized Social Systems for Local Communities: researched on and developed recommender system using external information aggregation in CoMeT system
 - * Adaptive Navigation Support and Open Social Learner Modeling for PAL: designed and developed recommender system for learning resources in the Mastery Grids system; researched on student sequence mining, concept reduction, and predicting students performance using Mastery Grids and Progressor system datasets

- * Modeling and Visualization of Latent Communities: researched on latent community detection approaches in scholar networks, community-based recommendation, multi-layer social networks, and similarity in social networks; developed community detection algorithms for the Gephi software
- * Personalization and social networking for short-term communities: designed and implemented recommender system using external information aggregation in Conference Navigator 3; participated in design, implementation, and database administration for Conference Navigator 3.
- **Graduate Intern**, LinkedIn, Mountain View, CA May. 2013-Aug. 2013
 - Researched on segmented model for job recommendation in Jobs You May Be Interested In (JYMBII) project under supervision of Dr. Trevor Walker and Dr. Anmol Bhasin. Designed and developed a general framework for using segmented models in content-based cross-domain recommendations and experimented in both offline (cross-validation) and online (A/B testing) settings.
- **Graduate Intern**, Language Technologies Institute, Carnegie Mellon University May. 2012-Aug. 2012
 - Worked on semantic mapping and knowledge representation of metaphores in the Metaphor Detection project under supervision of Dr. Jaime Carbonell. The project was on understanding metaphors in several languages including English, Russian, and Farsi.
- **Graduate Intern**, Human Computer Interaction Dept., Carnegie Mellon University May. 2011-Aug. 2011
 - Developed a collaborative online editing and chatting environment for a project on collaborative crowd-sourcing under supervision of Dr. Robert Kraut and Dr. Aniket Kittur. The project studied the effect of various collaboration conditions (such as having shared instructions, being able to communicate via chat, etc.) in the result of final achieved tasks (in terms of correctness, creativity, etc.)

TEACHING EXPERIENCE

- **Lecturer**, *Introduction to Artificial Intelligence*, University at Albany – SUNY. Fall 2016
- **Guest Lecturer**, *Adaptive Information Systems Course*, University of Pittsburgh. 2013, 2014, and 2015
 - Lecture on advanced recommendation approaches, including factorization methods and graphical models for recommendation
- **Teaching Volunteer**, *TechDivaz Workshop*, University of Pittsburgh. 2012
 - An all-girls computer science and programming workshop for students in grades 7 to 9
- **Teaching Workshop Participation**, *Center for Instructional Development & Distance Education (CIDDE)*, University of Pittsburgh. 2014
 - Designing a Syllabus
 - Writing Assignments: Design, Assessment, and Feedback
 - Encouraging Student Participation
 - Effective Teaching with, and without, PowerPoint
 - Dealing with Difficult Situations in the Classroom

PUBLICATIONS

BOOK CHAPTERS

- [1] D. Parra and S. Sahebi, "Recommender systems: Sources of knowledge and evaluation metrics," in *Advanced Techniques in Web Intelligence-2: Web User Browsing Behaviour and Preference Analysis*, J. V. et al. (Eds.), Ed. Berlin Heidelberg: Springer-Verlag, 2013, ch. 7, pp. 149–175.

CONFERENCE & WORKSHOP PAPERS

- [2] S. Sahebi, Y. Lin, and P. Brusilovsky, "Tensor factorization for student modeling and performance prediction in unstructured domain," in *The 9th International Conference on Educational Data Mining*. IEDMS, 2016.

- [3] **S. Sahebi** and P. Brusilovsky, "It takes two to tango: An exploration of domain pairs for cross-domain collaborative filtering," in *Proceedings of the 9th ACM Conference on Recommender Systems*. ACM, 2015, pp. 131–138.
- [4] **S. Sahebi**, Y. Huang, and P. Brusilovsky, "Predicting student performance in solving parameterized exercises," in *Intelligent Tutoring Systems*. Springer, 2014, pp. 496–503.
- [5] **S. Sahebi** and T. Walker, "Content-based cross-domain recommendations using segmented models," in *Workshop on New Trends in Content-based Recommender Systems (CBRecsys)*. ACM, 2014, pp. 57–63.
- [6] J. Guerra, **S. Sahebi**, P. Brusilovsky, and Y. Lin, "The problem solving genome: Analyzing sequential patterns of student work with parameterized exercises," in *7th International Conference on Educational Data Mining*, 2014, pp. 153–160.
- [7] **S. Sahebi**, Y. Huang, and P. Brusilovsky, "Parameterized exercises in java programming: using knowledge structure for performance prediction," in *The second Workshop on AI-supported Education for Computer Science (AIEDCS)*. University of Pittsburgh, 2014, pp. 61–70.
- [8] **S. Sahebi** and P. Brusilovsky, "Cross-domain collaborative recommendation in a cold-start context: The impact of user profile size on the quality of recommendation," in *User Modeling, Adaptation, and Personalization*. Springer, 2013, pp. 289–295.
- [9] C. Lopez, R. Farzan, **S. Sahebi**, and P. Brusilovsky, "What influences the decision to participate in audience-bounded online communities?" in *iConference 2013 Proceedings*, 2013, pp. 491–496.
- [10] **S. Sahebi** and W. W. Cohen, "Community-based recommendations: a solution to the cold start problem," in *Workshop on Recommender Systems and the Social Web, RSWEB*. ACM, 2011.
- [11] P. Brusilovsky, D. Parra, **S. Sahebi**, and C. Wongchokprasitti, "Collaborative information finding in smaller communities: The case of research talks," in *Collaborative Computing: Networking, Applications and Worksharing (CollaborateCom)*, 2010 6th International Conference on. IEEE, 2010, pp. 1–10.
- [12] **S. Sahebi**, C. Wongchokprasitti, and P. Brusilovsky, "Recommending research colloquia: a study of several sources for user profiling," in *Proceedings of the 1st International Workshop on Information Heterogeneity and Fusion in Recommender Systems*. ACM, 2010, pp. 32–38.
- [13] R. Khosravi, M. Sirjani, N. Asoudeh, **S. Sahebi**, and H. Iravanchi, "Modeling and analysis of reo connectors using alloy," in *Coordination Models and Languages*. Springer, 2008, pp. 169–183.
- [14] **S. Sahebi**, F. Oroumchian, and R. Khosravi, "An enhanced similarity measure for utilizing site structure in web personalization systems," in *Web Intelligence and Intelligent Agent Technology, 2008. WI-IAT'08. IEEE/WIC/ACM International Conference on*, vol. 3. IEEE, 2008, pp. 82–85.
- [15] **S. Sahebi**, F. Oroumchian, and R. Khosravi, "Applying and comparing hidden markov model and fuzzy clustering algorithms to web usage data for recommender systems," in *Data Mining and Knowledge Discovery*, 2008, pp. 179–181.

POSTERS

- [16] D. Parra, W. Jeng, P. Brusilovsky, C. López, and **S. Sahebi**, "Conference navigator 3: An online social conference support system." in *UMAP Workshops*, 2012.

THESES

- [17] **S. Sahebi**, “Cross-domain recommendation: The feasibility and the value for the cold start users,” Master’s thesis, Intelligent Systems Program, University of Pittsburgh, 2013.
- [18] **S. Sahebi**, “Applying web content to web recommendation systems,” Master’s thesis, Electrical and Computer Engineering Department, University of Tehran, 2009.
- [19] **S. Sahebi**, “A system for evaluating view updating in rdbms,” Bachelor’s thesis, Computer Engineering Department, Sharif University of Technology, 2005.

AWARDS AND HONORS

- **A&S Fellowship**, Intelligent Systems Program, University of Pittsburgh 2014
- **A&S Fellowship**, Intelligent Systems Program, University of Pittsburgh 2013
- **ACM SRC Awards**, for GHC conference 2013
- **A&S Fellowship**, Intelligent Systems Program, University of Pittsburgh 2009

PROFESSIONAL SERVICE

- Program Committee Member
 - iConference conference, 2017
 - WWW conference - User Modeling Personalization and Experience Track, 2017
 - ACM RecSys 2016 Posters, 2016
 - 1st Workshop on Big, Linked and Social Data for Personalized and Intelligent Systems, 2016
 - 7th International Workshop on Modeling Social Media, 2016
 - International Workshop on Social Personalization, 2015
 - 2nd Workshop on New Trends in Content-Based Recommender Systems, 2015
 - DeCAT: Deep Content Analytics Techniques for Personalized and Intelligent Services Workshop, 2015
 - Graph-based Educational Datamining Workshop, 2014
 - International Workshop on Social Personalization , 2014
- Journal Reviewer
 - Journal of Learning Analytics, ACM Computing Surveys, Transactions on Information Systems, IEEE Transactions on Big Data
- External Reviewer
 - UMUAI, KDD, WWW, RecSys, HyperText, WI, UMAP, and UAI
- Student Volunteer
 - RecSys, 2014
- Professional Organizations
 - Business Manager of Women in SIS (WIS) Organization at School of Information Sciences of University of Pittsburgh, Oct. 2014 - 2015
 - Intelligent Systems Program’s Representative in Graduate Student Organization, Oct. 2013 - 2015
 - Co-Founder and Vice-President of Women in SIS (WIS) Organization at School of Information Sciences of University of Pittsburgh, Oct. 2013 - Sep. 2014
- Memberships
 - ACM, IEEE, ACM-W, IEEE Women in Engineering

INDUSTRIAL EXPERIENCE

- *Team Lead* ITOrbit Co., Tehran, Iran. Apr. 2009-Aug. 2009
 - Led the design of the business process management system (EPIC BPMS) in the Software Product Line project.
- *Senior Developer* IranRayaneh Co., Tehran, Iran. Aug. 2005-Aug. 2006
 - Designed and developed the search functionality in the FilerEE project, working with Lucene.
- *Database Administrator* IranRayaneh Co., Tehran, Iran. Apr. 2005-Aug. 2005
 - Migrated a large-scale enterprise project from SQL Server 2000 to MySQL 5.0 and Oracle 10g.

TECHNICAL SKILLS

- Development and Scripting Languages: Java, Matlab, R, Standard SQL, PL/SQL, Pig.
- Relational Database: Expertise in MySQL, SQL Server, and Familiar with Oracle, PostgreSQL.
- Data Analysis Tools: GraphLab, Weka, OpenBUGS, Mahout, Gephi, SPSS, STATA.