Mohit Sharma

Personal Data

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Education

CURRENT	Ph.D. Candidate in COMPUTER SCIENCE, **University of Minnesota**, Minneapolis Thesis title: "Preference modeling and accuracy in recommender systems." Advisor: Prof. George KARYPIS. Committee: Prof. George KARYPIS, Prof. Joseph KONSTAN, Prof. Rui KUANG & Prof. Zizhuo WANG .
2012-2016	Masters Degree in COMPUTER SCIENCE, **University of Minnesota**, Minneapolis Coursework: Machine Learning, Data Mining, Artificial Intelligence, Convex Optimization, Bayesian Decision Theory, Matrix Theory, Algorithmic techniques for Big Data, Parallel Computing. GPA: 3.9/4.0
JUNE 2009	Bachelor of Engineering in INFORMATION TECHNOLOGY, **Delhi College of Engineering**, Delhi

Full-time employment

JUL 2009 - DEC 2011	Software Development Engineer at CITRIX R&D INDIA PRIVATE LIMITED, India Developed *Desktop Virtualizaton Client* for *Blackberry, Android* and *HTML5* platforms (*Java, Javascript*).

Internships

JUN - NOV 2014	Research Intern at SAMSUNG RESEARCH AMERICA, CA Developed a large scale *recommender sytem* for Smart TV using *SPARK, HADOOP*. Designed algorithms for item cold-start Top-n recommendations.
JUN - AUG 2013	Research Intern at TECHNICOLOR LABS, Palo Alto, CA Developed a web-based prototype (*Python, MongoDB*) to learn users' preferences in *recommender systems* using *multi-arm bandit* algorithms.
JAN - MAR 2009	Engineering Intern at HI-TECH ROBOTICS SYSTEMZ LTD, India Developed a *p2p* communication api in *C++* using NAT traversal techniques for exchanging messages between nodes or bots via internet.
JUN'08 - JUL'08 DEC'07 - FEB'08	Engineering Intern at GOOGLE INDIA PRIVATE LIMITED, India Developed a web-based Workflow Management tool hosted internally on *Google AppEngine*(*Python*). Developed initial version of tool using *PHP, MySQL* and *Javascript*.

Publications

Mohit Sharma, Max Harper, George Karypis. Learning from sets of items in recommender systems, ACM TiiS Journal , 2017 (*Pending submission*).

Mohit Sharma, George Karypis. Matrix completion and Top-n recommendations, RecSys, 2017, (*Under review*).

Mohit Sharma, Max Harper, George Karypis. Learning from sets of items in recommender systems, eKnow, IARIA 2017 (**Best paper award**).

David Anastasiu, Evangelia Christakopoulou, Shaden Smith, **Mohit Sharma**. Big Data and Recommender Systems, Big Data Issue of Novática, 2016.

Vishwanathan N., Bandyopadhyay A. Fu H. **Sharma M.**, Johnson K., Mudge J. Ramaraj T., Onsongo G., Silverstein K., Jacob N., Le H., Karypis G., and Hu W. Augmenting Chinese hamster genome assembly by identifying regions of high confidence, Biotechnology Journal, 2016.

Mohit Sharma, Jiayou Zhou, Junling Hu, George Karypis. Feature-based factorized Bilinear Similarity Model for Cold-Start Top-n Item Recommendation, SIAM SDM, 2015.

O.P Verma, **Mohit Sharma**, Nimish Gupta, Pankaj Nanda, Sandeep Chawla. A new approach to Dynamic Network Routing using Omicron Ant Colony Algorithm, IEEE ICNS, 2011.

Program committee / AWARDS

Program committee: International Workshop on Machine Learning Methods for Recommender Systems, SDM (2015, 2017).

Travel awards: SDM 2015.

Best paper award: eKnow, IARIA 2017.

Projects

Recommender System with Implicit Feedback using Low-Rank Matrix Factorization: Used implicit feedback with low rank matrix factorization technique to improve recommendations in massively multiplayer online games.

Using sparse inverse covariance estimation for Top-n recommender systems: Applied sparse inverse covariance estimation (GLASSO) to learn item-item similarities for Top-n recommendations.

Matrix completion using crowdsourcing: Learn missing values in ratings matrix using crowdsourcing and evaluate recommendation results.

Optimization techniques for routing in dynamic networks: Implemented Alternating Direction Method of Multipliers (ADMM) to minimize flow costs to obtain the best path in routing.

Others

BandBaaja app: Developed "Band Baaja" a location aware android app to discover music events across major Indian cities. Server side written in python and hosted on Google's AppEngine platform.

Programming languages: C/C++, Python, Scala, Java

Machine/Deep learning frameworks: PyTorch, Keras, Scikit-learn, Graphlab, MlLib (Spark)