# Mohit Sharma

## Personal Data


Address: 117 Pleasant St SE, Room 452, Minneapolis, MN 55455, USA
Phone: +1 631 353 9519
email: mohit@cs.umn.edu


## Education

**Current** | Ph.D. Candidate in Computer Science, **University of Minnesota**, Minneapolis
Thesis topic: "Preference modeling and accuracy in recommender systems."
Advisor: Prof. George Karypis.
Thesis committee: Prof. George Karypis, Prof. Joseph Konstan,
Prof. Zizhuo Wang & Prof. Rui Kuang.
GPA: 3.9/4.0

**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
Grade: 76/100

## Work Experience

**Current** | Graduate Research Assistant at University of Minnesota, MN
Research towards Ph.D. thesis.

**June-Nov 2014** | Research Intern at Samsung Research America, CA
*Recommender Systems*
Developed large scale *recommender sytem* for Smart TV using *SPARK, HADOOP*. Designed algorithms for item cold-start Top-$n$ recommendations.

**Summer 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.

**July 2009 - Dec 2011** | Software Development Engineer at Citrix R&D India Private Limited, Bangalore
Worked on development of *Citrix Receiver* app for *Blackberry, Android* and *HTML5* platforms (*Java, Javascript*).

**Jan 2009 - 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.

**Summer 2008**
**DEC 2007 - FEB 2008** | 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

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|---|---|
| eKNOW, IARIA 2017 | Learning from sets of items in recommender systems |
| Big Data Novatica 2016 | Big Data and Recommender Systems |
| Biotechnology 2016 | Augmenting Chinese hamster genome assembly by identifying regions of high confidence |
| SDM 2015 | Feature-based factorized Bilinear Similarity Model for Cold-Start Top-n Item Recommendation |
| IEEE ICNS 2011 | A new approach to Dynamic Network Routing using Omicron Ant Colony Algorithm |

## Program committee / REVIEWER / AWARDS

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

**Reviewer:** ICDM (2015, 2016), WWW (2016), SDM (2017), RecSys (2016), TKDD (2015), DSAA (2015).

**Travel awards:** SDM 2015.

## Graduate 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.

**Comparison of draft assemblies of Chinese Hamster genome and Chinese Hamster Ovary(CHO- K1):** Devised methods of comparing two assemblies as no standard method of comparison is available and found the consensus regions between the two large genome datasets.

## Undergraduate Project

**Routing in Computer Networks using Ant Colony Optimization & Genetic algorithm:** Designed and implemented a dynamic routing algorithm on NS2(C++, TCL) using Ant and Genetic algorithms.

## Other Projects

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

**Cocktails app:** Wrote and released "Cocktails" app for Blackberry Playbook tablet, Android tablets and iPad using HTML5.

**Github:** https://github.com/mohit-shrma