AL MAMUNUR RASHID

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CAREER OBJECTIVES

I hope to tackle challenging problems in the areas of machine learning, data mining, information filtering, intelligent user interfaces, and personalization, and make an impact with my results in a stimulating environment.

EDUCATION

Ph.D. in Computer Science……..…….(Feb 2007)
Dept. of Computer Science and Engineering, Univ. of Minnesota, Twin Cities
Dissertation topic: "Mining Influence in Recommender Systems"
Advisor: Prof. John T. Riedl

Master of Science …….(March 2004)
Dept. of Computer Science and Engineering, Univ. of Minnesota, Twin Cities

Bachelor of Science……(September 1998)
Dept. of Computer Science and Engineering, Bangladesh University of Engineering & Technology (BUET).

PROFESSIONAL EXPERIENCE

Data Miner……..(Feb 2007-now)
Intel Corporation, Folsom, CA.

- Mining tens of millions of rows of manufacturing data and product return data from customers to monitor signals using statistical bin limits, and to identify potential root causes of failures. Methods being investigated include probabilistic log likelihood ratio and information theoretic approaches on highly unbalanced and noisy data.
- Building statistical product reliability models from customer return data to compare against internal reliability models built using simulated use cases. Also investigating any relationship between product features and the rate of failure in the field.
- Mining various sources of customer data including shipment, customer complaints, and customer returns to identify key customers so that important decisions like smart resource allocations can be made.
- Analyzing historical product usage data to estimate statistical parameters for use-condition/product-life modeling.
- Designing statistical experiments for comparative studies and analyzing data to statistically justify changes.

Graduate Intern……(Summer 2005)
Intel Corporation, Santa Clara, CA.
Mined field reliability data-streams of various products; designed and implemented a number of OLAP cubes to facilitate faster data analyses on a large amount of data; defined a data mining process flow to perform lot/tool/material/parametric commonality analysis.

Graduate Intern……(Summer 2004)
Intel Corporation, Santa Clara, CA.

Analyzed product failure data to search any indicators and built a tool for cost-avoidance models.

Research Intern…….....……..…(Summer 2003)

Intel Research, Seattle, Washington.

- Developed and deployed Proactive Display applications that used the power of sensors to infer about the people and the activities taking place in their vicinity and respond *appropriately*.
- Mined participants' homepages and used natural language processing (NLP) to provide a dynamic visualization of the relationships of the people (identified by their RFID tags) by matching *important* phrases associated with those people (gathered from those peoples' homepages).

Research Assistant .....……(Fall 2000-Present)

GroupLens Research Group, Dept. of Computer Science and Engineering, Univ. of Minnesota.

Activities in general

- Implement machine learning and data mining algorithms for offline analysis using C or Java.
- Design online prototype interfaces usually augmenting the MovieLens system using Java (Servlet), XML/XSL, Javascript, and mySQL/Oracle.
- Perform statistical analysis on the results obtained from offline and online experiments using JMP, Matlab, GnuPlot, Excel, and various Linux command-line utilities.

Major projects

- *Influence in Recommender Systems*
  Proposed novel probabilistic approaches to compute user and item influence, and studied the feasibility and implications of meaningful applications of influence. The project involved predictive modeling of influence using SVM and least squares regression, Bayesian modeling, and devising information theoretic measures.
- *Clustering for scalability*
  Investigated probabilistic latent semantic analysis (pLSA), singular value decomposition (SVD), Gaussian modeling of user-types (Personality Diagnosis), and classic CF algorithms against the bisecting *k*-means clustering to achieve a highly scalable and portable CF algorithm.
- *Learning new user profiles*
  Investigated how historical data can enable the system to deploy various information theoretic and machine learning approaches to effectively garner user preferences.
- *Research paper recommendation*
  Analyzed ways of using the readily available citation data as a proxy for user votes, and how various machine learning algorithms including Bayesian CF generate recommendations that fit into the particular task of the users.
- *Motivating user participation*
  By using machine learning algorithms such as SVM regression, and social science theories such as collective effort model (CEM), we studied how to motivate users for important contributions by showing the potential value of their contributions.

Software Engineer……..(June 1999-May 2000)

Bashundhara Group of Companies, Dhaka, Bangladesh.

- Developed a client-server based LC-management software using Foxpro and SQL server.
- Developed a Decision Support System for a Pharmaceutical Company so that marketing agents can be assigned to maximize potential gains.

Lecturer……..(August 1998-August 2000)

Computer Science and Engineering Dept., Ahsanullah University of Science & Technology, Dhaka, Bangladesh.

- Taught the following courses at undergraduate levels: Computer Networks, Object Oriented Programming (with Java), Operating Systems, Data Structures, and Algorithms.

TECHNICAL QUALIFICATIONS

- Multiple years experience with several different computer *operating systems* including different flavors of Unix (Solaris, Linux), Windows NT/2K/XP.
- Computer *languages* known: C, Java, C++, C#, Perl, XML, HTML, Javascript, Pascal, Fortran, PL/SQL, SQL, x86 Assembly Language. Also familiar with the Gnu set of programming utilities and software engineering tools. *Databases*: Oracle, MS SQL Server, MySQL, MS Access, Foxpro. *Network protocols*: TCP/IP programming using Berkley Sockets.
- Proficient with RDBMS, Data Warehousing, and OLAP Cube concepts and applications.
- *Data analyzing* ability with JMP/SAS, Matlab/Octave, GNUPlot, Perl, and MS Excel.
- Proficient with object oriented methodologies and software engineering principles and tools (e.g., version controlling with CVS/SVN, make, Eclipse, ant, Visual Studio, and so on).

HONORS AND AWARDS

- Yahoo! Research best paper award for Web Mining in WebKDD 2008.
- Co-authored paper received the best paper award in CSCW 2006.
- Dean's Scholarship in sophomore, junior and senior academic years.
- Divisional Recognition Award, Intel Corporation, May 2005.
- Technical Scholarship from the University in every undergraduate year for good academic result.
- Board Scholarship for excellent result in Higher Secondary Certificate examination

PUBLICATIONS

[1] **Al Mamunur Rashid**, George Karypis, and John Riedl. *Learning Preferences of New Users in Recommender Systems: An Information Theoretic Approach*. Web Mining and Web Usage Analysis, August 24-27, 2008, Las Vegas, Nevada, USA.
(*Yahoo! Research* ***BEST PAPER*** *award for Web Mining*)

[2] **Al Mamunur Rashid**. *Mining Influence in Recommender Systems*. Ph.D. Dissertation, University of Minnesota, Feb. 2007.

[3] **Al Mamunur Rashid**, Shyong K. Lam, Adam LaPitz, George Karypis, and John Riedl. *Towards a Scalable k NN CF Algorithm: Exploring Effective Applications of Clustering*. LNAI vol 4811/2007: Advances in Web Mining and Web Usage Analysis, pages 147-166, Springer.

[4] **Al Mamunur Rashid**, George Karypis, and John Riedl. *Influence in Ratings-Based Recommender Systems: An Algorithm-Independent Approach*. SIAM International Conference on Data Mining, 2005.

[5] **Al Mamunur Rashid**, Shyong K. Lam, George Karypis, and John Riedl. *ClustKNN: A Highly Scalable Hybrid Model- & Memory-Based CF Algorithm*. WEBKDD 2006, Web Mining and Web Usage Analysis, August 20, 2006, Philadelphia, Pennsylvania, USA.

[6] **Al Mamunur Rashid**, Kimberly Ling, Regina D Tassone, Paul Resnick, Robert Kraut, and John Riedl. *Motivating Participation by Displaying the Value of Contribution*. ACM Conference on Human-Computer Interactions, CHI, 2006.

[7] Shilad Sen, Shyong K. Lam, **Al Mamunur Rashid**, Dan Cosley, Dan Frankowski, Jeremy Osterhouse, Franklin Harper and John Riedl. *tagging, communities, vocabulary, evolution*. Proceedings of the ACM 2006 Conference on CSCW.

[8] Kimberly Ling, Gerard Beenen, Pamela Ludford, Xiaoqing Wang, Klarissa Chang, Xin Li, Dan Cosley, Dan Frankowski, Loren Terveen, **Al Mamunur Rashid**, Paul Resnick, and Robert Kraut. *Using Social Psychology to Motivate Contributions to Online Communities*. Journal of Computer Mediated Communication, vol 10, issue 4, July 2005.

[9] Joseph F. McCarthy, David W. McDonald, Suzanne Soroczak, David H. Nguyen and **Al M. Rashid**. *Augmenting the Social Space of an Academic Conference*. ACM 2004 Conference on Computer Supported Cooperative Work (CSCW 2004), 6-10 November 2004.

[10] Joseph F. McCarthy, David H. Nguyen, **Al Mamunur Rashid**, and Suzanne Soroczak. *Proactive Displays & The Experience UbiComp Project*. Position paper UbiComp 2003 Conference Workshop: First International Workshop on Ubiquitous Systems for Supporting Social Interaction and Face-to-Face Communication in Public Spaces.

[11] **Al Mamunur Rashid**, Albert, I., Cosley, D., Lam, S. K., McNee, S., Konstan, J. A., & Riedl, J. (2002). *Getting to Know You: Learning New User Preferences in Recommender Systems*. In Proceedings of the 2002 International Conference on Intelligent User Interfaces, San Francisco, CA, pp. 127-134.

[12] McNee, S., Albert, I., Cosley, D., Gopalkrishnan, P., Lam, S.K., **Rashid, A.M**., Konstan, J.A., & Riedl, J. (2002). *On the Recommending of Citations for Research Papers*. In Proceedings of ACM 2002 Conference on Computer Supported Cooperative Work (CSCW2002), New Orleans, LA, pp. 116-125.

[13] **Al Mamunur Rashid**, Ali, M. M. (1997). *On-Line Handwritten Character Recognition Using 1-Dim, 1-Dim DP Approach*. In Proceedings of National Conference on Computer & Information Systems, Bangladesh. ISBN: 984-31-0083-2.

ACTIVITIES

- Reviewer of a number of international conferences and journals including CHI, AAAI, KDD, IUI, CSCW, ACM TOIS, ACM TOIT, and so on.
- Current member of the ACM.
- Organizer, Computer Club, AUST.
- Member, organizing committee of the annual college festival.
- Member, college badminton team in the Junior year.

REFERENCES

Available upon request.