

SHILAD SEN

Assistant Professor of computer science and social computing researcher. • 612-889-0022 • ssen@macalester.edu

EDUCATION

- Aug '04 - March '09* **University of Minnesota**, Minneapolis, MN – (GPA: 3.80/4.00)
Ph.D. in Computer Science, nominated for best dissertation; advisor: John Riedl.
- Sept '94 - June '99* **Northwestern University**, Evanston, IL – (GPA: 3.52/4.00)
B.A. Mathematics / B.M. Saxophone Performance

POSITIONS HELD

- Aug '08 - present* **Macalester College**, *Assistant Professor*, St. Paul, MN
- Led undergraduate research teams in building two websites that serve as experimental platforms (Macademia and Poliwiki) and conducted research that explores balkanization in Wikipedia.
 - Taught classes in Collective Intelligence, Algorithms, Internet Programming, Object-Oriented Programming, Operating Systems, Networking.
- Aug '11 – June '12* **University of Minnesota**, *Visiting Researcher*, Minneapolis, MN
- Collaborating with psychologists at Carnegie Mellon University to devise, implement, and evaluate strategies for increasing newcomer participation in Wikipedia.
 - Measuring the gender gap between Wikipedia editors, exploring possible reasons underlying the gap, and assessing the affects of the gap on article quality.
 - Conducting an online experiment that identifies differences in tagging behavior between users of two cultures (American and Chinese).
 - Developing NLP algorithms that mine semantic relationships from Wikipedia.
 - Conducting an online experiment that explores visualizations supporting interdisciplinary research collaborations.
- Oct '04 – Aug '08* **GroupLens Research Group**, *Research Assistant*, University of Minnesota, Minneapolis, MN
- Social Tagging Systems (e.g. <http://flickr.com>, <http://del.icio.us>):
 - Analyzed factors influencing vocabulary development in social tagging systems.
 - Built human and machine-learning systems to classify individual tags as good or bad.
 - Explored methods for combining tagging systems and recommender systems.
 - Recommender Systems:
 - Implemented and evaluated a wide range of recommender algorithms on multiple datasets.
 - Assisted in creation of <http://wikilens.org>, a member-maintained recommender community.
- Summer '07* **Google, Inc.**, *Software Engineering Intern*, Mountain View, CA
- Conceived, designed, and implemented a social feature for Google Checkout in Java.
- Summer '06* **Thomson Legal Research and Development Group**, *Research Intern*, Eagan, MN
- Improved recommendation system for over 10 million documents on westlaw.com.
 - Designed and evaluated hybrid metadata/clickstream clustering algorithms using offline usage data.
- Summer '05* **IBM Research Collaborative User Experience Group**, *Research Intern*, Cambridge, MA
- Improved [Activity Explorer](#), a Java application supporting ad-hoc group collaboration, by creating a general alert management system employing rules-based and predictive software alert filtering.
 - Served as lead author of *CSCW 2006* research paper based on research.
 - Filed six patents based on research results.

POSITIONS HELD (continued)

Sep. '98 – Oct '04

Sourcelight Technologies, *Lead Engineer and Software Manager*, Evanston, IL

- Promoted to lead engineer after one year
- Created and oversaw maintenance of hosted movie recommendation service for clients such as Blockbuster Inc., Hollywood Video, and Comcast Cable written in Java, Python, and C.
- Designed a scalable, redundant, recommender system architecture in C/C++ and Python that supports features such as millisecond response times and automatic failover and on-the-fly addition of new servers. Demonstrated performance improvements of up to 20X over original system.
- Developed clustering models for music prediction built from one half billion ratings

AWARDS

Most recent first:

- **Best Paper Winner**, awarded to top submission, WikiSym Conference, 2011
- **Best Paper Nominee**, awarded to top 3 submissions, IUI Conference, 2011
- **Best Dissertation Nominee**, Physical Sciences at Engineering, Univ of MN, 2009
- **Best Paper Award Winner**, awarded to top submission, IUI Conference, 2009
- **Best of CSCW Award Winner**, awarded to 1% of submissions, CSCW Conference, 2006
- **IBM Patent Plateau Award (for four or more patents)**, 2006
- **Second Place**, North American Saxophone Alliance Jazz Competition, 1999

PUBLICATIONS

Book chapters:

- Shafer, **Sen**, Frankowski, Herlocker, “Collaborative Filtering Recommender Systems” in *Adaptive Web-Based Systems*. Springer, 2007.

Journal articles:

- J. Vig, **S. Sen**, J. Riedl, The Tag Genome: Encoding Community Knowledge to Support Novel Interaction, *ACM Transactions on Interactive Intelligent Applications*, September, 2012.

Conference Proceedings (most recent first):

- H. Ford, **S. Sen**, D. Musicant, *N. Miller. Getting to the Source: Where does Wikipedia Get Its Information? To Appear in *Proceedings of the 9th International Symposium on Wikis and Open Collaboration*. ACM, 2013.
- Kluver, D., Nguyen T., Ekstrand M., **Sen S.**, and Riedl J. , “How many bits per rating?”, RecSys 2012, 09/2012, Dublin, Ireland, p.99-106 (20% acceptance rate).
- R. Preidhosky, **S. Sen**, L. Terveen, “Recommending Routes in the Context of Bicycling: Algorithms, Evaluation, and the Value of Personalization,” *CSCW 2012*.
- Z. Dong, C. Shi, **S. Sen**, L. Terveen, J. Riedl , “War Versus Inspirational in Forrest Gump: Cultural Effects in Tagging Communities.” *ICWSM 2012*.
- S.K. Lam, A. Uduwage, Z. Dong, **S. Sen**, D.R. Musicant, L. Terveen and J. Riedl, “WP:Clubhouse? An Exploration of Wikipedia's Gender Imbalance.” *WikiSym 2011 winner of Best Paper*.
- E. Sparling and **S. Sen**: Rating: How difficult is it? *RecSys 2011* (20% acceptance rate).
- J. Vig, **S. Sen**, and J. Riedl. 2011. Navigating the tag genome. In *Proceedings of the 16th international conference on Intelligent user interfaces (IUI '11)* **nominated for Best Paper**.
- **S. Sen**, H. Charlton, R. Kerwin, J. Lim, B. Maus, N. Miller, M. Naminski, A. Schneeman, A. Tran, E. Nunes, and E. Isaac Sparling. 2011. Macademia: semantic visualization of research interests. In *Proceedings of the 16th international conference on Intelligent user interfaces (IUI '11)*.
- J. Vig, M. Soukup, **S. Sen**, J. Riedl, “Tag Expression: Tagging with Feeling,” *UIST 2010* (18% acceptance rate).
- **S. Sen**, J. Vig, J. Riedl, “Tagommenders: Connecting Users to Items Through Tags,” to appear in *WWW 2009* (12%).
- **S. Sen**, J. Vig, J. Riedl, “Learning to Recognize Valuable Tags,” to appear in *IUI 2009* (25% acceptance rate).
- J. Vig, **S. Sen**, J. Riedl, “Tagsplanations: Explaining Recommendations Using Tags,” to appear in *IUI 2009* (25% acceptance rate) **winner of Best Paper** (awarded to less than 1% of submissions).

PUBLICATIONS

Conference Proceedings (continued)

- S. Drenner, **S. Sen**, L. Terveen, "Crafting the initial user experience to achieve community goals", RecSys 2008 (acceptance rate: 30%).
- **S. Sen**, F. Harper, A. LaPitz, J. Riedl, "The Quest for Quality Tags." *GROUP 2007* (28% acceptance rate).
- F. Harper, **S. Sen**, D. Frankowski, "Supporting Social Recommendations with Activity-Balanced Clustering." To appear, *2007 ACM Recommender Systems*.
- D. Frankowski, S. Lam, **S. Sen**, F. Harper, S. Yilek, M. Cassano, J. Riedl, "Recommenders Everywhere: The WikiLens Community-Maintained Recommender System." *WikiSym 2007*.
- **S. Sen**, S. Lam, D. Cosley, M. Al-Rashid, D. Frankowski, F. Harper, J. Osterhouse, J. Riedl, "tagging, communities, vocabulary, evolution." *CSCW 2006*. (22% acceptance rate) **Winner of Best of CSCW Award** (awarded to 1% of all submissions).
- **S. Sen**, W. Geyer, M. Muller, M. Moore, B. Brownholtz, E. Wilcox, "FeedMe: A Collaborative Alert Filtering System." *CSCW 2006*. (22% acceptance rate).
- D. Frankowski, D. Cosley, **S. Sen**, L. Terveen, J. Riedl, "You Are What You Say: Privacy Risks of Public Mentions." *SIGIR 2006* (19% acceptance rate).

Posters:

- **A. Bristol, M. Huffman, *N. Leech, G. Wang, P. Codenotti, S. Sen, The Lifecycle of Wikipedia Editors, 2013 Joint Mathematics Meeting.**

FUNDING

External Funding:

- NSF: "Guiding Folksonomy Development to Enable Novel Tagging Applications," (Macalester PI Shilad Sen, Univ of MN PI Loren Terveen and Co-PI John Riedl). \$1,200,000 from May 2010 to May 2014 (Macalester College portion of grant is \$250,000).
- Associated Colleges of the Midwest: "Opening the Macademia Website to all ACM Institutions," (PI Shilad Sen). Funded for \$19,717 from June 2010 – June 2011.
- Amazon.com: \$10000 of computational time to support Wikipedia research, June 2010 to June 2013.

Internal Macalester College Funding:

- Keck: "Building the Poliwiki Experimental Web Platform," (PI Shilad Sen). Funded for \$7000.
- Wallace: "Tagommenders: Connecting Users to Items Through Tags." Travel grant for \$3000 to present research at the World Wide Web Conference in Madrid, Spain.

INVITED TALKS

- "Choosing Tags", CSCW 2008
- "Nurturing Tagging Communities", Google Tech Talk 2007

MEDIA COVERAGE

- "Wikipedia's Gender Gap," Spark, Canadian Broadcasting Corporation, to air in October 2011.
- "Wikileaks the Class," Chronicle of Higher Education, 2011.
- "What is Tagging?" KARE11 News Tech Watch, 2006.

PROJECTS

June '09 - present

Macademia Faculty Research Collaboration Website: <http://macademia.macalester.edu>

- Designed and developed the Macademia website, which visualizes research interest relationships from approximately 2000 faculty members who have created profiles.
- Led 15 undergraduate researchers in projects centered around the Macademia website.
- Launching an extensive online study evaluating new algorithms and visualizations for self-tagging systems such as Facebook.

June '09 - present

Poliwiki Experimental Web Platform, <http://www.poliwiki.org>

- Developing a community-maintained political website that will serve as an experimental platform for exploring multiple points of view about polarizing issues.
- Led a team of 12 students in building a prototype version of the website.
- Publicly launching the site this spring.

Sept '98 - June '99

Computer Jazz Improvisation System, <http://www.shilad.com/jazz>

- Created software system in Java that allows users to input chords, harmonic devices, and songs.
- Derived and implemented expert-based rules to generate improvisational solos using these constructs.

April '06 - present

Co-producer and saxophonist, <http://www.snowblindmusic.com>

- Released “Arctic Fury” and “Taking Shape” CDs with *Snowblind*, a jazz quintet.
- Performed at the 2006 Twin Cities Summer Festival and the 2007 Twin Cities Winter Jazz Festival.

PROFESSIONAL

Program Committee Member:

- ACM Conference on Wikis and Open Collaboration (WikiSym), 2013
- WWW Workshop on Social Recommender Systems (SRS), 2013
- ACM Conference on Recommender Systems (RecSys), 2012
- ACM Special Interest Group in Computer Science Education (SIGCSE), 2012
- ACM Conference on Recommender Systems (RecSys), 2011
- ACM Conference on Social Communications (COSN), 2010
- ACM Conference on Recommender Systems (RecSys), 2010
- International Conference on Intelligent User Interfaces (IUI), 2009
- International Conference on Electronic Commerce (EC), 2009
- International Conference on Electronic Commerce - Web Technologies (EC-Web), 2009

Referee: *The Interdisciplinary Journal of HCI, The Journal of Machine Learning Research, The New Journal of Physics, ACM Transactions on Information Systems*, and over twenty conference proceedings.

SKILLS

Programming Languages: C/C++, Java, Python, Perl, SQL, Tcl, VB, LISP, ML, Groovy, Matlab

Operating Systems: Linux, MacOS, Sun/Solaris, Windows

Technologies: HTTP, TCP/IP, J2EE, XML, Apache, Tomcat, JBoss, SWT, Hibernate

Tools: Standard unix tools (vi, make, sed, awk, etc.) Eclipse, JBuilder, Webstudio, Visual Studio, ant

Databases: Postgresql, MySQL, Sybase, Oracle

INTERESTS

Playing jazz saxophone, squash, traveling, building things, basketball