

## Yiming Liu

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<http://yimingliu.com>

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### RESEARCH INTERESTS

I am primarily interested in the design of intelligent and/or collaborative systems to address everyday information needs, with recent emphasis on Web-based information systems and social media systems. Applying techniques from information and computer sciences (such as information retrieval, natural language processing, or human-computer interaction), I look for novel means to help users deal with the ever-increasing amount of information encountered in the course of modern life.

### EDUCATION

University of California, Berkeley: Ph.D. Information (expected 2013)

GPA: 4.00 of 4.00

*University of California, Berkeley*: Master of Information Management and Systems (May 2008)

GPA: 4.00 of 4.00

*Coursework*: Natural Language Processing, Search and Social Media, XML, Web Services/Architecture

*Honors*: James R. Chen Award for Outstanding Master's Project, School of Information Merit Fellowship

*Northwestern University*: Bachelor of Science in Computer Science, magna cum laude (June 2006)

GPA: 3.86 of 4.00 (all courses), 3.96 of 4.00 (CS major)

*Honors*: Dean's List (2003-2004, 2004-2005, 2005-2006), Tau Beta Pi Engineering Honor Society

### PAPERS

Yiming Liu, Rui Yang and Erik Wilde, Open and Decentralized Access across Location-Based Services, 20th International World Wide Web Conference (WWW2011), Hyderabad, India, March 2011.

Yiming Liu and Erik Wilde, Personalized Location-Based Services, iConference 2011, Seattle, Washington, February 2011.

Yiming Liu and Erik Wilde. "Scalable and Mashable Location-Oriented Web Services". 10th International Conference on Web Engineering (ICWE 2010) Vienna, Austria, July 2010.

David A. Shamma and Yiming Liu. Zync with me: synchronized sharing of video through instant messaging. Chapter in *Social Interactive Television: Immersive Shared Experiences and Perspectives*. IGI Global. Winter 2009.

Erik Wilde and Yiming Liu. Lightweight Linked Data. The 2008 IEEE International Conference on Information Reuse and Integration.

Yiming Liu, Ruchi Kumar, Kevin Lim. Taggers versus Linkers: comparing tags and anchor text of Web pages. UCB iSchool Report 2008-020. School of Information, University of California, Berkeley. <http://repositories.cdlib.org/ischool/2008-020/>

David A. Shamma, Marcello Bastea-Forte, Niels Joubert, Yiming Liu. Enhancing online personal connections through the synchronized sharing of online video. CHI 2008 Work in Progress. <http://portal.acm.org/citation.cfm?doid=1358628.1358786>

Yiming Liu, David A. Shamma, Peter Shafton, Jeannie Yang. Zync: the design of synchronized video sharing. Design for User Experience (DUX) 2007, November 2007, Chicago, USA. [http://yahooeresearchberkeley.com/blog/wp-content/uploads/2007/10/liu\\_ztdosvs\\_sketch-web.pdf](http://yahooeresearchberkeley.com/blog/wp-content/uploads/2007/10/liu_ztdosvs_sketch-web.pdf)

David A. Shamma, Ryan Shaw, Peter Shafton, Yiming Liu. Watch what I watch: Using Community Activity To Understand Content. In the workshop for Multimedia Information Retrieval (MIR): Special Session on Semantic Indexing of Consumer and Web Videos. Fifteenth ACM International Conference on Multimedia, (ACM MM 07), September 2007, Augsburg, Germany. <http://portal.acm.org/citation.cfm?id=1290082.1290120>

Yiming Liu. IPR in Development. UCB iSchool Report 2007-011. School of Information, University of California, Berkeley.

## **SIGNIFICANT SOFTWARE**

### **Tiled Feeds: Open and mashable system for location-based service delivery**

Designed and implemented an Atom/AtomPub-based system for delivering open location-based services. Devised feed query language, service management framework.

### **Ark.com: Internet for Good**

*Ark.com, Inc.*

Designed and implemented backend platform and internal web service APIs for Ark.com, a social cause marketing startup. Built Python-based system from ground-up, focusing on e-commerce, online tracking, and social network integrations.

### **Popcuts.com: digital music store**

*Popcuts, Inc.*

Designed and implemented digital music store that allocates incentives to song purchasers, from the ground up, focusing on data modeling, general implementation, scalable system architecture (withstood Techcrunch, Associated Press coverage traffic spikes), and query optimization. Funded by YCombinator and winner of the 2009 SXSW Startup Accelerator in the Music category. Implemented in Python and Pylons web framework.

### **Zync: synchronized video sharing plug-in ( <http://next.yahoo.net/archives/9/featured-project-zync> )**

*Yahoo Research Berkeley*

Collaborated on implementation of prototype to enable synchronized media experiences over instant messenger. Designed and instrumented backend system for usage data collection. Conducted quantitative and social network analysis on video sharing behavior of 2,000+ users. Using PHP, JavaScript, and Flash.

### **Perspectives: citizen journalism**

*Yahoo Research Berkeley*

Implemented backend web services to facilitate upload, processing, and aggregation of geo-tagged video from personal cellphones. Assisted in design and implementation of citizen-journalism web application that associated user-generated videos with news video from CNN around particular locations. Voted as one of the top 10 hacks at Yahoo! Internal Hack Day (Summer 2007). Implemented C++, Python, PHP, and Flash.

### **Distributed transcoding server**

*Yahoo Research Berkeley*

Led implementation of a modular, distributed web service to enable automatic transcoding and analysis of (media) files, using C++ and PHP.

### **Intelligent Information Agent for TV News**

*Intelligent Information Laboratory, Northwestern University*

Collaborated on research and implementation of intelligent agent to discern primary topics of live TV news, perform automated search for other relevant or related stories, and present summaries of gathered content. Implemented in C# .NET.

## **SKILLS**

Programming and Markup Languages:

*Proficient:* Python, C, Objective-C

*Familiar:* PHP, C++, Perl, C#.NET, Matlab, Java, XML/XSLT/XQuery/XPath, IA32 assembly, Common Lisp, Scheme

Relational Databases: MySQL, Oracle, Postgres / PostGIS

Operating Systems: Mac OS X, Linux, Windows, FreeBSD

Development Tools: Apple Xcode, Microsoft Visual Studio .NET, Emacs/Xemacs, Eclipse

## WORK

- 2010-2011 Chief Architect, Ark.com
- Startup venture allowing users to earn money for non-profit causes through social media
  - Led back-end systems design and architecture
  - Designed and implemented internal platform and API for Ark applications
- 2008-2010 Co-Founder / CTO, Popcuts, Inc.
- Led ground-up software development at Popcuts, a Y-Combinator funded startup
  - Led systems design, modeling, and architecture, optimizing for multimedia-heavy content service
  - Evaluated and integrated third-party vendor support services
  - Identified and evaluated stability and scalability of Popcuts systems
  - Designed allocation engine to apply Popcuts algorithms for assigning incentives to early song buyers
  - Designed and implemented RESTful API to Popcuts data; implemented OAuth protocol and test suites
- 2008 Graduate Research Assistant, UCB iSchool
- Co-designed and implemented functionality for SLinks, an AtomPub-derivative architecture and protocol for storing and retrieving contextual data about Web resources
- 2007 Graduate Student Instructor, UCB iSchool
- Planned graduate-level sections in information organization and retrieval
  - Taught course sections for vocabulary design, database normalization, vector space models in IR
  - L lectured on multimedia information retrieval
- 2006-2007 Technical Intern, Yahoo! Research Berkeley
- Developed usage data collection backend for Zync, a synchronized video sharing plug-in for Y! Messenger
  - Performed basic statistical and social-network analysis on interaction data collected from Zync usage.
  - Researched and implemented methods for automatic segmentation of presentation-style video media
  - Implemented a distributed architecture for automating media transcoding and metadata extraction
- 2005 Technical Consultant, U-Trader.com (defunct)
- Evaluated and integrated e-commerce solutions for inter-campus classifieds and community web portal
- 2004-2005 Research Aide, Northwestern CS TomorrowLab (graphics lab)
- Developed paper submission management system for MidGraph 2004 academic conference
  - Created framework for conducting web-based evaluation for TomorrowLab projects
  - Created web demo/galleries for TomorrowLab projects.
- 2004-2005 Undergraduate Researcher, Northwestern CS InfoLab
- Investigated and implemented information-processing agent to provide dynamic supplemental content for TV media
- 2004-2005 Web Developer, Figzig.com
- Created backend database access framework and blogging capabilities for MySQL-based, PHP-driven social networking startup