

Hung-Hsuan Chen

Ph.D. Candidate, Computer Science and Engineering, Pennsylvania State University

CONTACT INFORMATION	Computer Science and Engineering The Pennsylvania State University State College, PA, 16802, USA	http://www.personal.psu.edu/hxc249 hhchen@psu.edu
RESEARCH INTERESTS	Machine Learning, Search Engine Ranking, Social Network Topology Analysis, Web 2.0, Data Stream Analysis, Multimedia Network	
EDUCATION	Ph.D. Student, Computer Science and Engineering, Pennsylvania State University M.S. Computer Science, National Tsing Hua University, Taiwan B.S. Computer Science, National Tsing Hua University, Taiwan	09/2008 - present 09/2004 - 06/2006 09/2000 - 06/2004
ACADEMIC WORKS	<p>Hung-Hsuan Chen, Liang Gou, Xiaolong Zhang, C. Lee Giles. Predicting Recent Links in FOAF Networks. <i>International Conference on Social Computing, Behavioral-Cultural Modeling and Prediction (SBP)</i>, 2012.</p> <p>Hung-Hsuan Chen, Liang Gou, Xiaolong Zhang, C. Lee Giles. Discovering Missing Links in Networks Using Vertex Similarity Measures. <i>Proceedings of the ACM Symposium on Applied Computing (SAC)</i>, 2012.</p> <p>Hung-Hsuan Chen, Liang Gou, Xiaolong Zhang, C. Lee Giles. Capturing Missing Links in Social Networks Using Vertex Similarity. <i>Proceedings of the 6th International Conference on Knowledge Capture (K-CAP)</i>, 2011 (poster).</p> <p>Hung-Hsuan Chen, Liang Gou, Xiaolong Zhang, C. Lee Giles. CollabSeer: A Search Engine for Collaboration Discovery. <i>Proceedings of the 11th Annual Joint Conference on Digital Libraries (JCDL)</i>, 2011.</p> <p>Liang Gou, Xiaolong Zhang, Hung-Hsuan Chen, Jung Hyun Kim, C. Lee Giles. SNDocRank: Social Network Document Ranking. <i>Proceedings of the 10th Annual Joint Conference on Digital Libraries (JCDL)</i>, 2010.</p> <p>Liang Gou, Hung-Hsuan Chen, Jung Hyun Kim, Xiaolong Zhang, C. Lee Giles. SNDocRank: Document Ranking Based on Social Networks. <i>Proceedings of the 19th International World Wide Web Conference (WWW)</i>, 2010 (poster).</p> <p>Liang Gou, Hung-Hsuan Chen, Jung Hyun Kim, Xiaolong Zhang, C. Lee Giles. SNDocRank: a Social Network-Based Video Search Ranking Framework. <i>ACM International Conference on Multimedia Information Retrieval (MIR)</i>, 2010.</p> <p>Liang Gou, Jung Hyun Kim, Hung-Hsuan Chen, Jason Collins, Marc Goodman, Xiaolong Zhang, C. Lee Giles. MobiSNA: a Mobile Video Social Network Application. <i>ACM Workshop on Data Engineering for Wireless and Mobile Access (MobiDE)</i>, 2009.</p> <p>Hung-Hsuan Chen, Kuan-Ta Chen, Cheng-Chun Tu. A User-Centric Framework for Computing Applications' Network Robustness. <i>ACM SIGCOMM</i>, 2008 (poster).</p> <p>Hung-Hsuan Chen. <i>Finding Frequent Items in Data Stream Environments</i>. Master's thesis, National Tsing Hua University, 2006.</p> <p>Chen-Lung Chan, Shih-Yu Huang, Hung-Hsuan Chen, Wei-Hao Tung, Jia-Shung Wang. An Application-Level Multicast Framework for Large Scale VOD Services. <i>IEEE International Conference on Parallel and Distributed Systems (ICPADS)</i>, 2005.</p>	
RESEARCH PROJECTS	CollabSeer , led by Dr. C. L. Giles	10/2010 - present
	CollabSeer is a search engine for discovering potential collaborators for a given author. It uses the CiteSeerX dataset to build a coauthor network, which includes over 1,300,000 computer science related documents and over a million unique authors. URL: http://collabseer.ist.psu.edu/	

MobiSNA, led by Dr. C. L. Giles and Dr. Luke Zhang 11/2008 - present

We designed an innovative mobile video social network application for users to socially share video(s) either in real-time from their phones or online videos. Moreover, we developed a document ranking mechanism based on user's social relevancy with other users to improve the search results. URL: <http://mobisna.ist.psu.edu/>

Comic Generator 05/2008 - 07/2008

We developed a comic generator that automatically summarizes player's actions and interactions in video games. It detects the important events and captures the screenshot, and then generates the comic book by these captured images based on their importance.

The Application's Network Robustness Evaluator 11/2007 - 05/2008

We compared real-time and interactive network applications in terms of their ability to handle network errors, i.e., network delay and loss. The approach is based on session times, which indicate users' perceptions of the network performance. Using a regression model, we separated the effect of network error on users' departure decisions from an application's baseline departure rate, and defined an index to quantify an application's network robustness.

DTV/MHP integrated program, EPG sub-program 09/2004 - 08/2006

We created a 3-dimensional browsing interface for electronic program guide, which enables more information to be contained in the limited TV screen. The 3-dimensional browsing interface integrates not only the traditional "channel number oriented" TV watching habit but also the "personal favorite oriented" approach.

Microsoft Windows CE .NET curriculum subject 07/2003 - 12/2003

We focused on the unique virtual memory management feature of Windows CE. We traced the kernel code to figure out how Windows CE allocates virtual memory and designed some lab experiments to demonstrate the idea. We also modified some Windows CE mechanisms. Our mechanism enabled processes to dynamically request and return memories without original limitation (32MB). The number of simultaneous processes can also be larger than the original constraint (32).

HTTP Load Balancer 03/2003 - 05/2003

The balancer actively detects or predicts the loads in each web servers instead of passively balancing the load by using Round Robin domain names allocation by DNS server. Using the knowledge of loads in each server, it can allocate the coming requests more fairly to each server.

EXPERIENCE

RA, Information Sciences and Technology, Penn State University 11/2008 - present

- Developed a system to find the similar people of a social network based on the network topology.
- Designed and implemented a mechanism to improve the search result of current search engines based on the social network information.
- Developed a video sharing platform on UMPC and laptop.

Software Engineer Intern, Google 05/2010 - 08/2010

- Developed in C++ a potential customer discovery platform for Google AdSense on parametric-based machine learning modeling.

RA, Institute of Information Science, Academia Sinica 11/2007 - 07/2008

- Developed a comic generation system that automatically summarizes players' actions and interactions in the virtual world, e.g., online games.
- Compared real-time and interactive network applications in terms of their ability to handle network errors based on users' departure decisions.

Second Lieutenant, Land Force, Taiwan (R.O.C.) 09/2006 - 11/2007

RA, Computer Science, National Tsing Hua University 09/2004 - 07/2006

- Developed a 3D interface for electronic program guide (EPG) of settop box.
- Designed and implemented a framework to capture the frequently occurred events among distributed systems in an efficient way.

TA of Operating Systems, National Tsing Hua University 09/2005 - 01/2006

- Independently designed and graded three lab projects for 100+ students by referring NachOS official site.
 - Implementation of “swap” and “virtual memory” in NachOS.
 - Implementation of new system calls
 - Altered the default NachOS CPU scheduling approach (Round Robin) to non-preemptive SJF and non-preemptive priority scheduling

Intern, CWeb Technology Inc 09/2003 - 06/2004

- Independently maintained 5+ commercial & educational websites, mainly by PHP and ASP.

TECHNICAL SKILLS LANGUAGES: C/C++, Java, C#, Python, PHP, UNIX Shell Scripts

TOOLS/PACKAGES: R (S-plus), MATLAB, Maple, Solr, L^AT_EX

OPERATING SYSTEMS: UNIX/Linux, MS-Windows