Yaning LIU
MASCOTTE - INRIA, Sophia Antipolis
2004, route des Lucioles B.P.93, 06902

+33 6 07966317 (Mobile)
lyningg@gmail.com
http://www-sop.inria.fr/members/Yaning.Liu/

Personal Data

Sex: Female

Date of Birth: 28/02/1977

Place of Birth: Shandong, China

Nationality: Chinese

Education

- **Telecom Bretagne** — Brest, France
  PhD in Computer Science — *Oct. 2007 - March 2011*
  - Thesis: "Advanced Features for Peer-to-Peer Video Streaming Systems"
- **Beijing University of Posts and Telecommunications** — Beijing, China
  PhD in Computer Science — *Oct. 2005 - Nov. 2010*
  - Thesis: "Network-Friendliness and Service Performance Evaluation of P2P applications"
- **Beijing University of Posts and Telecommunications** — Beijing, China
  Master in Computer Science — *Sep. 2003 - 2005*
- **Nanjing University of Science and Technology** — Nanjing, China
  Bachelor in Electronic Engineering — *Sep. 1994 - July 1998*

Research Experiences

- **INRIA** — Sophia Antipolis, France
  MASCOTTE — *April 2011 – Present*
  - ANR DIMAGREEN on Energy Efficient Network
- **Telecom Bretagne** — Brest, France
  Department of Computer Science — *Oct. 2007 - March 2011*
  - Project of Pinfish (Oct. 2009 - March 2011)
    This project is working on network-friendly IPTV in collaboration with China telecom and university under the supervision of CODEST Ariel cooperative agreement. My recent research focuses on the P2P time-shifted IPTV systems. We currently model P2P time-shifted IPTV as a multiple-interval graph and implement a Peer-Assisted Catch-UP TV System (namely PACUS) using PeerSim simulator. Based on the minimum dominating set algorithm of this model, a smart PACUS tracker helps peer to efficiently find new neighbors while the peer joins and seeks in the system. We further propose a turntable structure to guarantee the chunk availability in the system.
  - Project of P2Pimage (Oct. 2007 - Sep. 2009)
    This project is funded by DGE on peer-to-peer video streaming system. In current P2P IPTV system, switching from one channel to another is far to be as fast as in traditional IPTV systems. We formulate the channel switching problem using domination theory, and propose an effective distributed algorithm.
- **Beijing University of Posts and Telecommunications** — Beijing, China
  State Key Laboratory of Networking and Switching — *2005 - Oct. 2007*
  - "P2P Traffic Control Model and Methodology Friendly to Traditional Internet Service" (May. 2006 - Oct. 2007)
    This project is supported by NSFC (National Natural Science Foundation of China). My researches are related to study the impact of P2P traffic on traditional Internet traffic, P2P network measurement, congestion control of P2P file-sharing traffic and P2P live streaming system.

– "Research and Implementation of Integrating Mobile IPv6 and MPLS"(May. 2005 - Apr. 2006)
This project is supported by National 863 project (National High Technology Research and Development Program of China). We implement the prototype system of the mobile IPv6 over MPLS on Linux. We built a test-bed and designed a set of experiments to analyze the scheme.

– "Research of Next-Generation Internet Measurement Infrastructure and its key technologies"(Jan. 2004 - Dec. 2004)
This project is supported by National 863 project. The project studies the performance evaluation method of IP network, network measurement technology and Internet measurement architecture. My studies focus on end-to-end available bandwidth measurement, and network bottleneck location and estimation as well.

Professional Experiences

- **CHINA UNICOM** Beijing, China
  Internship *Sep. 2004 - Sep. 2005*
  – Manage and coordinate the experiments of 3G mobile network, including CDMA2000, WCDMA and TD-SCDMA. This experiment is organized by Chinese Ministry of Information Industry. My main responsibility is to collect and arrange the experiment data, and compose the experiment report.

- **Gozap** Beijing, China
  Software Engineer *Jan. 2005 - Sep. 2007*
  – Gozap is a Instant Messaging (namely IM) service platform based on XMPP/Jabber. My responsibility is to implement and maintenance the IM server, especially for the protocol transport for the communication between Gozap and other IM systems (MSN, QQ and Yahoo).

- **CHINA TELECOM** Shandong, China
  Network Engineer *Aug. 1998 - Aug. 2003*
  – Responsibilities to the construction and maintenance of data network including X.25, DDN, ATM, ADSL and Broadband IP network.

Skills

Languages: C/C++, Java, Awk

Distributed system: Good knowledge of distributed system, especially for peer-to-peer overlay network, including file sharing application and P2P video streaming application.

Network Protocol: RIP/OSPF/BGP, TCP/UDP, MPLS, Mobile IP, and ATM

Theory: Graph Theory, Probability Theory, Stochastic Process, Linear Programming.

Simulation tools: MATLAB, NS2 and PeerSim.

Others: LaTeX, Eclipse, experience on Linux kernel programming.

Publications

Yiping Chen, Anne-Marie Kermarrec, Erwan Le Merrer, **Yaning Liu** and Gwendal Simon. "OAZE: a Network-Friendly Distributed Zapping System for Peer-to-Peer IPTV", submitted in *journal of Computer Network*.

Yaning Liu and Gwendal Simon, "Distributed Time-shifted Streaming Delivery", submitted in IEEE Transactions on Network and Service Management.

Yaning Liu and Gwendal Simon, "Peer-Assisted Time-shifted Streaming Systems: Design and Promises", *ICC'2011: IEEE International Conference on Communications*, in Kyoto, Japan, June, 2011.

Yaning Liu and Gwendal Simon, "Distributed Delivery System for Time-shifted Streaming Systems", *LCN'10: 35th Int. Conf. on Local Computer Networks* (LCN), in Denver, Colorado, U.S.A, Oct. 2010.

Anne-Marie Kermarrec, Erwan Le Merrer, **Yaning Liu** and Gwendal Simon. "Surfing Peer-to-Peer IPTV: Distributed Channel Switching", *Euro-Par 2009,* in Delft, the Netherland, Aug. 2009.

Yaning Liu, Hongbo Wang, Shiduan Cheng and Gwendal Simon, "Friendly P2P: Application-level Congestion Control for Peer-to-Peer Applications", *GLOBECOM'08: IEEE Conference on Global Telecommunications,* in New Orleans, US, Nov. 2008.

Wei Li, Shanzhi Chen, **Yaning Liu** and Xin Li. "Aggregate Congestion Control for Peer-to-Peer File Sharing Applications", *SNPD '08: Ninth ACIS International Conference on Software Engineering, Artificial Intelligence, Networking, and Parallel/Distributed Computing*, Aug. 2008, Page(s):700 - 705.

Yaning Liu, Hongbo Wang, Yu Lin and Shiduan Cheng, "Modeling and Quantifying the Impact of P2P File Sharing Traffic on Traditional Internet Traffic", *22nd International Conference on Advanced Information Networking and Applications,* in Japan, 2008.

Yaning Liu, Hongbo Wang and Shiduan Cheng, "The Impact of P2P Traffic on Web Traffic", *ZTE Communications*, ISSN 1009-6868, VOL 13, 2007. (in Chinese with English abstract)

Chunying Tian, Shanzhi Chen, Yuhong Li and **Yaning Liu**. "Experimental Study of MPLS and MIPv6 Integration Technology", *ChinaCom'06: the First International Conference on Communications and Networking*, in China, Page(s):1-3, Oct. 2006.

Languages

Chinese: Native

English: Fluent

French: Intermediate