

Pushkar Sachdeva

1050 Curran Street Apt 1, Atlanta, GA - 30318

Email: psachdev@cc.gatech.edu, Ph: 678-662-7911

RESEARCH INTERESTS

I am interested in designing and developing networked services and systems for dynamic computing environments like wireless mesh networks, mobile ad-hoc networks, embedded/real-time systems and delay tolerant networks.

EDUCATION

Georgia Institute of Technology, Atlanta, GA

MS Computer Science. GPA 4.0

Aug 2008 - July 2010 (Expected)

Indian Institute of Technology (IIT) Roorkee, India

B.Tech., Computer Science & Engineering. GPA 8.63/10

Aug 2001 - June 2005

PROFESSIONAL EXPERIENCE

- *Research Intern*, **Deutsche Telekom Research Labs**, Los Altos, CA May-Aug 2009
Worked on Google android platform to facilitate simultaneous usage of 3G and Wifi networks . The goal of the project was to optimally use bandwidth associated with each network interface keeping the battery consumption within specified limits.
- *Research Assistant*, **Networking and Telecom Group Georgia Tech**, Atlanta, GA Aug 2008-present
Worked with Prof. Mostafa Ammar on comparison and analysis of various TDMA MAC protocol based network flooding schemes. Came up with a simple distributed randomized algorithm for scheduling the transmission slots during network flooding that provided optimal channel utilization with high probability. The proposed method was topology unaware and only required information about the maximum degree of a node in the network. Currently, working on facilitating routing in an intermittently connected mobile network using internal nodes having *message ferry* capability.
- *Senior Software Engineer*, **Drishti-Soft Solutions**, Gurgaon, India Oct 2006-July 2008
Responsible for design and development of DACX Component Service Framework. The framework ensures better maintainability, scalability and high availability of the component service. Implemented critical features like *Inbound Call Routing* and *Call Blending* in the DACX Outbound Call Dialer product. Also worked on DACX Client Framework, based on EMF (Eclipse Modeling Framework), which facilitates faster GUI development using a declarative model driven approach.
- *Software Engineer*, **CA (formerly Computer Associates)**, Hyderabad, India June 2005-Oct 2006
Developed a Web Services enabled DMI (Device Management Interface), based on MUWS (Management using Web Services) specifications, to expose RFID (Radio Frequency Identification) Readers for network communication. Also designed and developed a Web Enabled Automation Framework. Using this framework, one can submit jobs (automated test-scripts) on one or more tests machines, perform job scheduling, do runtime job monitoring and eventually store the test results at server-side repository. It was developed using Java/J2EE.

MANUSCRIPTS

- Bahadir Polat, Pushkar Sachdeva, Mostafa Ammar and Ellen Zegura. “*Message Ferries As Generalized Dominating Sets In Intermittently Connected Mobile Networks*”, Technical Report, *Georgia Institute of Technology*, 2009.
- Pushkar Sachdeva, Pushkar Tripathi and Mostafa Ammar. “*An optimal topology independent transmission scheduling algorithm for flooding in mobile networks*”, Manuscript 2009.

ACADEMIC PROJECTS

- *A Preemptive User Level Thread Library*, Advanced Operating Systems, Georgia Tech Fall 2009
Designed and implemented a user level thread package with API similar to UNIX Pthreads library.
- *Spin Barriers for Thread Synchronization*, Advanced Operating Systems, Georgia Tech Fall 2009
Implemented a couple of spin barriers using OpenMP and MPI tools, and used them to synchronize multiple threads and machines.
- *Real Time Deals & Offers on Android*, Real Time Systems, Georgia Tech Fall 2009
Implemented a real time "deals" update framework. The objective was to present the user with an interface which will allow the user to search for products, set up search filters, get notified about the latest hot deals and further keep track of them.
- *Analyzing the Hybrid Architecture of Veoh*, Internet App. And Services, Georgia Tech Spring 2008
This project dealt with the measurement and analysis of a video streaming application called Veoh, which uses both P2P and Client-Server architecture. We evaluated the peer-server contribution with time for downloaded/streaming videos, compared peer churning for videos of different popularity, analyzed download/upload ratio of the peers and determined the average packet size of the flows of different duration. We used *Wireshark* tool to collect the data.
- *A Location Aware Multi-player Network Game using Session Initiation Protocol (SIP)*, B.Tech. Final Year Project, IIT Roorkee India Aug 2004-May 2005
Designed and developed a multi-player game prototype where the communication between game players was dependent upon their location (in the context of game) with respect to other players.
- *VoIP Implementation using SIP*, B.Tech. Summer Project, IIT Roorkee India May 2004-July 2004
It is a voice-enabled messenger application having an additional feature of determining user availability. It used SIP and SDP (Session Description Protocol) for media negotiation.

COMPUTER SKILLS

Programming: Java/J2EE, C/C++, Perl, Python, JavaScript, HTML, XML, SQL, 8086, Shell Script
Tools & APIs: MPI, OpenMP, GDB, SVN/CVS, Makefile, Wireshark, Network Workbench, SIP/SDP, Eclipse, EMF, Apache Muse, Apache Tomcat, JBoss, Hibernate, STAF, MS Office
Platforms: Linux, Windows, MS-DOS

AWARDS AND ACHIEVEMENTS

- Secured an **All India Rank - 89** in Roorkee Entrance Examination for admission into the IITs.
- Recipient of full scholarship for being among the top 7% students in Computer Science department, IIT Roorkee India.
- **Winner** of Math Quiz in IMPULSE-2002, IIT Roorkee India.
- Secured **second position** in Math Quiz, Synaptrix 2002-03, IIT Roorkee India.
- **Winner** of Spot Award for outstanding performance in OOCTO group, CA India.
- **Winner** of **Annual Maestro Award** 2007-2008 at Drishti-Soft Solutions India for exceeding development expectations and setting new performance benchmark for team members.
- Member of the **winning team** of the national level squash championship- SPARDHA at IT- BHU, India in 2004.

REFERENCES

Available on request