PRACHI SINGHAL

191 Sherbourne Street, Apt 511, Toronto, ON M5A 3X1, Canada
(001)647-771-0015
prachi.singhal@utoronto.ca
http://individual.utoronto.ca/prachisinghal

Education

2010
(Present)

University of Toronto, Toronto, Canada
Masters of Engineering (M.Eng), Communications Group, Electrical and Computer Engineering

2004 – 08

Indian Institute of Technology (IIT) Guwahati, India
Bachelors of Technology (B.Tech), Electronics and Communication Engineering
- Cumulative Performance Index: 7.91

Work Experience

2011
(Present)

Mircom Technologies Ltd., Vaughan (Toronto), Ontario, Canada
Research Engineer (Intern)
- Design and development of proprietary multicast video conferencing software for in-suite telephone entry security panels

2011
(Present)

University of Toronto, Toronto, Ontario, Canada
Teaching Assistant
- Creative Applications for Mobile Devices (Graduate Course)
- Answering student queries and grading assignments, exams and project reports

2008 – 10

Samsung India Software Operations Pvt. Ltd., Bangalore, India
Senior Software Engineer

- Design, development and product commercialization of IP Multimedia Subsystem (IMS) technologies for 3G mobile handsets as per 3GPP TS 33.978 and Open Mobile Alliance (OMA) specifications
- Delivered training for *Architecture and Application Development on Android Platform*
- Middleware development and application commercialization support for Digital Living Network Alliance (DLNA), Location-based services and Enhanced Multimedia Player on Android Platform
- Active member of *Ideation and Patent Generation Taskforce*' and significant contribution to patenting and standardization of technological proposals

Research Experience

2011
(Present)

University of Toronto, Toronto, Ontario, Canada
Graduate Research Student
- Research sponsored by **MITACS Accelerate**
- Reliable multimedia transfer for multicast video conferencing via secure transport protocol over Video LAN using a loopback mechanism.

2007 – 08

Indian Institute of Technology (IIT) Guwahati, India
Undergraduate Research Assistant
- Proposed a novel approach to design speaker recognition system based on non-speech vocal emissions
- Filtered speaker-specific features from non-speech vocal emissions uncommon to the speech sample space, and inculcated them to conventional Speaker Recognition model
- Produced a more robust identification system improving performance by 70%

2007	**Indian Institute of Sciences (IISc)**, Bangalore, India
(May – July)	Research Intern

- Proposed a novel method of echo cancellation to overcome the disadvantages of conventional time-domain adaptive algorithms used in real-time systems
- Exploited spectral subtraction and peak matching in frequency domain, for filter estimation and echo cancellation in frequency domain

2006	**Centre for Applied Research in Electronics** (CARE)
(May – July)	**Indian Institute of Technology (IIT)** Delhi, India
	Sophomore Intern

- Developed a simulator for signal communication employing various communication schemes and algorithms specific to underwater acoustic signals
- Performed a technical survey on optimized loading techniques under possible and probable constraints

Patents and Papers

- **Patent Pending** – disclosure at Samsung Electronics Co. Ltd., Seoul, Korea (May 2010)
  Prachi Singhal, Manish Singhal, "*IMS Framework for Interactive Scheduler Service*", 2010

- **Paper** – submitted at Samsung Electronics Co. Ltd., Seoul, Korea for 'Samsung International Best Paper Award 2010' (June 2010)
  Prachi Singhal, Rajan Dahiya, "Automatic Speaker Recognition System based on Non-Speech Vocal Emissions", Samsung Electronics Co. Ltd., Korea, 2010

Skills and Proficiencies

- **Programming Languages** – C, C++, Java, XML, HTML basics, Assembly Language (Microprocessor 8085, 8086, ADSP 2189 and Microcontroller 8051).

- **Simulation Softwares** – MATLAB, Eclipse, VDSP++, Visual Studio, Ethereal

- **Testing Tools –** QXDM, QPST and TRACE32 JTAG Debugger

- **Mobile Platforms** – Android, BADA, Samsung Proprietary Handset Platform (MOCHA)

Awards and Honours

- Recipient of **MITACS Accelerate** Scholarship
- **Business Contribution Award** at Samsung India Software Operations Pvt. Ltd. for the project that contributed highest towards company's business objectives in terms of revenue and standardization
- **Certified Trainer** for 'Android Architecture and Application Development' at Samsung India Software Operations Pvt. Ltd.
- Qualified IIT-JEE 2004 with **All India Rank 1090**, an examination for admission to prestigious IITs, and got listed among top 0.5% students from all over India

Relevant Courses

Graduate: Communication Networks, Data Communication, Stochastic Processes, Algorithms and Data Structures

Undergraduate: Signal Processing and Smart Antennas for Wireless Communications, Mobile Communication, Advanced Topics in Digital Signal Processing, Information Theory and Coding, Image Processing, Speech Processing, Communication System Engineering, Communication Networks, Digital Signal Processing, Digital Communications, Probability and Random Processes, Principles of Communications