

# Rohit Kumar

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## WORK EXPERIENCE

### Raytheon BBN Technologies

- Scientist: October 2011 - Present

### Alelo Tactical Language Training LLC

- Research Intern: August - December, 2009

### Language Technologies Institute, Carnegie Mellon University

- Graduate Research Assistant: 2005 - 2011

### Worth Publishers

- Industrial Contract (with my advisor) to develop PsychChallenge for their educational portal

### Language Technologies Research Center, IIIT Hyderabad, India

- Research Scientist: 2003 - 2005
- Research Intern: 2002

## EDUCATION

### Ph.D. in Language Technologies: 2007 - 2011

Language Technologies Institute, Carnegie Mellon University, Pittsburgh, Pennsylvania

- Advisor: Dr. Carolyn P. Rosé  
Dissertation Title: Conversational Agents in Multi-Party Interactive Situations

### Masters in Language Technologies: 2005 - 2007

Language Technologies Institute, Carnegie Mellon University, Pittsburgh, Pennsylvania

- Advisor: Dr. Carolyn P. Rosé

### Bachelor of Engineering with Honors: 1999 - 2003

Punjab Engineering College, Punjab University, Chandigarh, India

- Major: Computer Science and Engineering

## AWARDS & NOMINATIONS

- Nominated for **Best Technical Design Award** at CSCL 2009
- Nominated for **Best Student Paper Award** at AIED 2007
- Nominated for **Best Student Paper Award** at ITS 2006
- **IEEE Computer Society Richard E. Merwin Student Scholarship 2003**

- **Awarded Medal for Best Undergraduate Project, 2003**  
Department of Computer Science & Engineering, Punjab Engineering College

## SELECTED PUBLICATIONS

- Published 41 papers in peer reviewed journals, conferences and workshops since 2002.  
List of all publications: <http://www.rohitkumar.net/documents/publications.pdf>
- Most cited paper has been cited over 65 times  
Tutorial Dialogue as Adaptive Collaborative Learning Support, Intl. Conf. on AI in Education, 2007

### Conversational Agents

- Rohit Kumar, Carolyn P. Rosé, **Comparing Triggering Policies for Social Behaviors**, SigDial 2011, Portland, OR
- Rohit Kumar, Carolyn P. Rosé, **Architecture for building Conversational Agents that support Collaborative Learning**, IEEE Transactions on Learning Technologies, vol. 4.1, pp. 21-34, 2011
- Rohit Kumar, Alicia Sagae, Lewis Johnson, **Evaluating an Authoring Tool for Mini-Dialogs**, Intl. Conf. on AI in Education 2009, Brighton, UK

### Collaborative Learning / Intelligent Tutoring

- Rohit Kumar, Jack L. Beuth, Carolyn P. Rosé, **Conversational Strategies that Support Idea Generation Productivity in Groups**, 9<sup>th</sup> Intl. Conf. on Computer Supported Collaborative Learning, 2011
- Rohit Kumar, Hua Ai, Jack Beuth, Carolyn P. Rosé, **Socially-capable Conversational Tutors can be Effective in Collaborative-Learning situations**, Intelligent Tutoring Systems (ITS) 2010, Pittsburgh, PA
- Rohit Kumar, Carolyn P. Rosé, Mahesh Joshi, Yi-Chia Wang, Yue Cui, Allen Robinson, **Tutorial Dialogue as Adaptive Collaborative Learning Support**, Intl. Conf. on AI in Education (AIED), July 2007, Los Angeles
- Rohit Kumar, Carolyn P. Rosé, Vincent Alevan, Ana Iglesias, Allen Robinson, **Evaluating the Effectiveness of Tutorial Dialogue in an Exploratory Learning Context**, Intelligent Tutoring Systems (ITS) 2006, Taipei, Taiwan

### Text-to-Speech Systems

- Rohit Kumar, S. P. Kishore, **Automatic Pruning of Unit Selection Speech Databases for Synthesis without Loss of Naturalness**, Intl. Conf. on Spoken Language Processing (Interspeech - ICSLP), October 2004, Jeju, Korea
- Rohit Kumar, **Genetic Algorithm for Unit Selection based Speech Synthesis**, Intl. Conf. on Spoken Language Processing (Interspeech - ICSLP), October 2004, Jeju Korea

## TECHNICAL SKILLS

- Programming Languages: Java, C, C++, Shell scripts (sh/bash)
- Web Technologies: HTML, PHP, Javascript, Drupal, MySQL
- Software and Libraries: Ravenclaw, Weka, MiniTab, Cognitive Tutor Authoring Tools

- Experience in dealing with issues involving Indian Language computing
- Administration Experience: IIS, Apache, Tomcat, SVN
- Special Purpose Hardware: Intel Dialogic Telephony boards, Arm processor based Handhelds

## SERVICE

### Professional

- Organizer
  - 1<sup>st</sup> Annual Innovation with Impact poster session, Carnegie Mellon University (2008)
  - 6<sup>th</sup> Annual Student Research Symposium, Language Technologies Institute (2007)
  - Annual Open House student poster session, , Language Technologies Institute (2007)
- Reviewer
  - Intl. Conf. on Intelligent User Interfaces (2011)
  - Information Sciences Journal (2010)
  - Young Researcher's Track, Intelligent Tutoring Systems, Pittsburgh PA (2010)
  - Dialogue and Discourse Journal (2010)
  - 5<sup>th</sup> International Conference on Natural Language Processing, Hyderabad, India (2007)
- Co-Founder of Entrepreneurship Club at School of Computer Science, CMU
- IEEE & IEEE Computer Society
  - Member, 2000 - Present
  - Founder Secretary of student branch chapter at PEC, Chandigarh, India

### Teaching

- Guest Lectures
  - Carnegie Mellon University, Research Design and Writing, 2010
  - University of Pittsburgh, Advanced Topics in AI, 2009
- Teaching Assistant
  - Middle School Courses: Computer Aided Design (2009-2011)
  - College Courses: Fundamentals of Mechanical Engineering (2009-2011)
  - Graduate School: Online Learning & Communication Technologies (2009), Summarization & Personal Information Management (2008)
- Mentor
  - Pittsburgh Sciences of Learning Center Summer School (2010, 2011)

### Social

- Graduate Student Assembly Representative for Language Technologies Institute (2007-2008)
  - Served on Committee on Student Organizations & Finance Committee
- Member of Student Activities Committee, Language Technologies Institute (2006-2011)
- Indian Graduate Student Association (IGSA)
  - Advisory Board member, 2006-2011
  - General Secretary, 2005-2006

- College Student Council, Punjab Engineering College (2002-2003)
  - Co-opted member for excellence in technical activities

## **SELECTED GRADUATE COURSEWORK**

- Conversational Interfaces (Carolyn Rosé)
- Affective Dialog Systems (Diane Litman)
- Dialogue Project Lab (Alex Rudnicky & Alan Black)
- Speech Recognition and Understanding (Tanja Schultz)
- Speech II: Phonetics, Prosody, Perception and Synthesis (Maxine Eskenazi & Alan Black)
- Machine Learning (Roni Rosenfeld)
- Language and Statistics (Roni Rosenfeld)
- Inventing the Future of Services (Anatole Gershman)