

## Rahul Garg

Research Engineer  
Botsquare Inc.

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## Education

- **University of Washington**, Seattle, WA **2007 - 2012**  
Ph.D. in Computer Science and Engineering  
Advisor: Prof. Steven M. Seitz
  - **Indian Institute of Technology (IIT) Delhi**, India **2003 - 2007**  
Bachelor of Technology in Computer Science and Engineering  
(GPA: 9.91/10.0, President's Gold Medal)
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## Awards

- **NVIDIA Fellowship**, 2009-2010
  - Among **top 12** finalists in TopCoder Open 2008 Marathon Programming Competition, an **international** event hosted by [www.topcoder.com](http://www.topcoder.com)
  - Among **top 500** onsite finalists in Google Code Jam 2008, an **international** programming contest organized by Google.
  - **Weil Family Endowed Fellowship** for the year 2007-2008 at the University of Washington
  - **Clairmont L. Egtvedt Fellowship** awarded by College of Engineering, University of Washington, 2007-2008
  - **President of India Gold Medal** for securing the highest cumulative GPA among all outgoing B.Tech. students across all disciplines in 2007 batch, IIT Delhi
  - Represented IIT Delhi in ACM International Programming Contest Regionals 2006
  - Among **top 50** finalists in Google Code Jam India, 2006 - Programming Contest organized by Google which attracted over 14,000 participants from South East Asia.
  - SURA (Summer Undergraduate Research Award), 2005 awarded by Industrial Research and Development Unit (IRD), IIT Delhi
  - **All India Rank 7** among 172,000 candidates in IIT-Joint Entrance Examination 2003
  - Rank **1** in Common Engineering Test (Delhi) 2003, Rank **18** in All India Engineering Entrance Examination 2003
  - Regular member of [www.topcoder.com](http://www.topcoder.com) - a website hosting global programming competitions, ranked among **top 5** in India during undergraduate program.
  - Selected for Training Camp, Indian National Physics Olympiad 2003
  - Awards in many math contests in high school - RMO (Regional Mathematics Olympiad) and SMO (Senior Mathematics Olympiad)
  - NTSE (National Talent Search Examination), 2001 Scholarship awarded by the Govt. of India
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## Publications

- R. Garg and S.M. Seitz. **Dynamic Mosaics**, Under submission to *3D Imaging, Modeling, Processing, Visualization, Transmission Conference (3DimPVT)*, 2012
- I. Kemelmacher-Shlizerman, E. Shechtman, R. Garg and S.M. Seitz. **Exploring Photobios**, *ACM Transactions on Graphics (Proceedings of SIGGRAPH 2011)*
  - Basis of Face Movies feature in Google Picasa, Google's photo organization software. Covered in press.

- R. Garg, D. Ramanan, S.M. Seitz and N. Snavely. **Where's Waldo: Matching People in Images of Crowds**, *In Proceedings of IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Colorado Springs, June 2011*
- R. Garg, H. Du, S.M. Seitz and N. Snavely. **The Dimensionality of Scene Appearance**, *In Proceedings of the IEEE International Conference on Computer Vision (ICCV), Kyoto, Japan, October 2009*
  - Cited by 13 as of July 2012 (Source: Google Scholar).
- N. Snavely, R. Garg, S.M. Seitz and R. Szeliski. **Finding Paths through the World's Photos**, *ACM Transactions on Graphics (Proceedings of SIGGRAPH 2008)*
  - Cited by 72 as of July 2012 (Source: Google Scholar).
  - 250,000 views for the submission video on Youtube (as of July 2012), covered in press.
- M. Varma and R. Garg. **Locally Invariant Fractal Features for Statistical Texture Classification**, *In Proceedings of the IEEE International Conference on Computer Vision (ICCV), Rio De Janeiro, Brazil, October 2007*
  - Cited by 34 as of July 2012 (Source: Google Scholar)

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## Patents

- Face and Expression Aligned Movies, S.M. Seitz, R. Garg, I. Kemelmacher, US Patent application 61/371,934, pending, filed on Aug 9, 2010
- TODO: Get info about android patent.

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## Thesis

- Unstructured Image Mosaics  
R. Garg, PhD Thesis, Dept. of Computer Science and Engineering, University of Washington, 2012
- Locally Invariant Fractal Features for Statistical Texture Classification R. Garg, B.Tech Thesis, Dept. of Computer Science and Engineering, IIT Delhi, 2007

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## Employment

- **Research Engineer at Botsquare Inc.** **June 2012 - Present**  
 TODO: What description is allowed
- **Software Engineering Intern at Google Seattle** **Summer 2011**  
**Mentor:** Prof. Steven M. Seitz  
 Developed prototype of an Android application that allows the user to take overlapping photos of a scene and browse them in an interactive viewer. A patent was filed for the same.
- **Software Engineering Intern at Google Seattle** **Spring-Summer 2010**  
**Mentor:** Prof. Steven M. Seitz  
 Implemented the Face Movie feature included in personal photo organizer software Picasa 3.8. The feature was extensively highlighted in press and the demonstration video has 1.4 million views on Youtube as of July 2012. A patent was filed for the method.

- **Research Intern at Microsoft Research Redmond** **Summer 2008**  
**Mentor:** Dr. Richard Szeliski

Worked on the problem of detecting and matching features across images of man made scenes.

- **Research Engineer at B-Core Software Pvt. Ltd., New Delhi** **Summer 2007**

Worked on an application for mobile platforms to decode color codes from an image of a colored sequence (analogous to bar codes).

- **Research Intern at Microsoft Research India** **Summer 2006**  
**Guide:** Dr. Manik Varma

Developed locally invariant fractal features which allow for statistical analysis and classification of textures.

- **Summer Internship at IIT, Delhi** **Summer 2005**  
**Guide:** Prof. Subhashis Banerjee

Developed a method to automatically detect vehicles in a video stream. Recipient of prestigious **SURA** (Summer Undergraduate Research Award), 2005 awarded by Industrial Research and Development Unit (IRD), IIT Delhi

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## Teaching Experience

- TA for CSE455 (Undergraduate Computer Vision course) during Winter 2010 at University of Washington.
- Tutored undergraduate students at University of Washington.

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## Talks

- **Exploring Photobios** (with Ira Kemelmacher-Shlizerman)  
SIGGRAPH 2011, Vancouver, BC, August 2011.
  - **Finding Paths through the World's Photos** (with Noah Snavely)  
SIGGRAPH 2008, Los Angeles, CA, August 2008.
  - **Beyond Photo Tourism: Guided Navigation of Internet Photo Collections**  
Indian Institute of Technology (IIT) Delhi, India, September 2008.
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