

# Sangbae Kim

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<b>Research Interests</b>	<b>Product design/development</b> Bio-inspired design, directional adhesive, mobile legged robots, 3D vision	
<b>Education</b>	<b>Ph.D.</b> Mechanical Engineering, Stanford University Thesis: <i>Toward Flexible Robots: Bio-inspired robot design with underactuated system</i> Advisor: Dr. Mark R. Cutkosky Stanford, USA <b>M.S.</b> Mechanical Engineering, Stanford University Stanford, USA <b>B.S.</b> Mechanical Engineering, Yonsei University Seoul, Korea	2004 ~  2002 - 2004 1994 - 2001
<b>Experience</b>	<b>Research Assistant (Ph.D. Candidate),</b> Developed bio-inspired robots at Biomimetic & Dexterous Manipulation Lab Stanford University <b>Design project ME310</b> Developed a navigation projection system for automobiles. Stanford University <b>Researcher</b> Developed the prototype of 3-D scanner Solutionix inc. <b>Military Service</b> Served as Drill Instructor for the army recruit training center Nonsan ,Korea	2002 ~ 2002 - 2003 2000 - 2001 1995 - 1997
<b>Award</b>	<b>Best Inventions of 2006</b> <b>TIME magazine</b> <b>Best Student Paper Award</b> - IEEE International Conference on Robotics and Automation <b>Best video Award</b> - IEEE International Conference on Robotics and Automation <b>The R&amp;D 100 Awards 2007</b>	Nov 2006 Apr 2007 May 2006 Oct 2007
<b>Publicity</b>	<b>TIME Magazine Best inventions 2006</b> <b>Wired Science pilot episode on PBS</b> <b>Modern Marvels on History Channel</b> <b>Forbes Magazine</b> article & photos. DiscoveryChannel.ca Dailey Planet Austrian Documentary film on ARTE Science Central ABC NEWS Korean New Year's talk show	Nov 2006 Jan 2007 July 2007 Sept 2006 May 2006 July 2005 Feb 2005 July 2005 Jan 2007
<b>Patents</b>	Spinybot: micro-spine wall-climbing robot iSprawl: novel dynamic running robot Stickybot : directional adhesive for climbing Device and method for handling an object of interest using a directional adhesive structure	

## Curriculum Vitae

### **Publication**

**Kim, S.**, Clark, J.E. and Cutkosky, M.R., "iSprawl: Design and Tuning for High-speed Autonomous Open-loop Running" International Journal of Robotics Research.

**Kim, S.**, Clark, J.E. and Cutkosky, M.R., "iSprawl : Autonomy, and the Effects of Power Transmission," Proc. CLAWAR, Madrid, Spain, Sept. 22-24, 2004. (*See also the IndependentSprawl page.*)

**Kim, S.**, Asbeck, A., Provancher, W., and Cutkosky, M.R., "SpinybotII: Climbing Hard Walls with Compliant Microspines," IEEE ICAR, Seattle, WA, July, 18-20, 2005.

**Kim, S.**, Spenko, M., Trujillo, S. Heyneman, B., Mattoli, V., Cutkosky, M. R. "Whole body adhesion: hierarchical, directional and distributed control of adhesive forces for a climbing robot" ICRA Rome, Italy, 10-14 April 2007, 1268-1273

**Kim, S.**, Spenko, M., Trujillo, S. Heyneman, B., Santos, D., Cutkosky, M. R. "Smooth Vertical Surface Climbing with Directional Adhesion" IEEE a special issue of transactions on Bio-Robotics

Santos, D., **Kim, S.**, Spenko, M., Parness, A., Cutkosky, M.R., "Directional Adhesive Structures for Controlled Climbing on Smooth Vertical Surfaces" ICRA Rome, Italy, 10-14 April 2007, 1262-1267

Asbeck, A.T., **Kim, S.**, McClung, A., Parness, A., and Cutkosky, M.R., Climbing Walls with Microspines," , IEEE ICRA, May 2006, Orlando, Fla. (Short paper to go with IEEE ICRA 2006 video. -- paper describes adaptation of the SpinyBot technology to the RisePlatform.) -- Won the best video at ICRA 2006

Asbeck, A., **Kim, S.**, Provancher, W.R., Cutkosky, M.R. and Lanzetta, M., "Scaling Hard Surfaces With Microspine Arrays," Robotics: Science and Systems, MIT, June 8-10, 2005.

Santos, D., Spenko, M., Parness, A., **Kim, S.** and Cutkosky, M. R. "Directional Adhesion for Climbing: Theoretical and Practical Considerations" Journal of Adhesion Science and Technology.