

## Roger Allan Pearce

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CONTACT INFORMATION	Parasol Laboratory Department of Computer Science Texas A&M University College Station, TX 77845 USA	<i>Voice:</i> (979) 847-8835 <i>Fax:</i> (979) 458-0425 <i>E-mail:</i> rpearce@tamu.edu <i>url:</i> parasol.tamu.edu/people/rpearce
RESEARCH INTERESTS	Motion Planning, robotics, machine learning, optimization, computational science, high-performance computing	
EDUCATION	<b>Texas A&amp;M University</b> , College Station, Texas USA Ph.D. Student, Computer Science, expected graduation date: May 2009 <ul style="list-style-type: none"><li>• Research Focus: Motion Planning</li><li>• Advisor: Dr. Nancy M. Amato</li><li>• Relevant Coursework: Algorithm Analysis, Computer Architecture, Databases, Digital Image Synthesis, Computational Biology, Computational Geometry, Parallel Algorithms, Physically Based Modeling, Robotics, Randomized Algorithms, Cortical Networks</li></ul> <b>Texas A&amp;M University</b> , College Station, Texas USA B.S., Computer Engineering, May 2004 <ul style="list-style-type: none"><li>• Senior Honors Thesis: "Extracting Optimal Paths from Roadmaps for Motion Planning"</li></ul>	
HONORS AND AWARDS	GAANN Fellow (Graduate Assistance in Areas of National Need), Texas A&M University, 2006-2007 University Undergraduate Research Fellow, Fall 2003 - Spring 2004 <ul style="list-style-type: none"><li>– First place for senior honors thesis in category of engineering and physics</li></ul> NSF Travel Grant, NSF Symp. on Cyber-Enabled Discovery and Innovation (CDI), 2007, Troy, NY NSF Travel Grant, IEEE Int. Conf. on Robotics and Automation (ICRA), 2007, Rome, Italy NSF Travel Grant, IEEE Int. Conf. on Robotics and Automation (ICRA), 2003, Taipei, Taiwan Undergraduate Summer Research Grant (USRG), Summer 2001, 2002 Member of Eagle Scout Association	
PROFESSIONAL EXPERIENCE	<b>Parasol Laboratory</b> , Advisor - Dr. Nancy Amato, College Station, TX USA <i>Graduate Research Assistant</i> <i>Undergraduate Research Assistant</i>	<b>Fall 2004 - Present</b> <b>Spring 2001 - Spring 2004</b> <ul style="list-style-type: none"><li>• High-Performance Computing and Computational Science<ul style="list-style-type: none"><li>– Seismic Ray-Tracing (collaboration with researchers in Geophysics)</li><li>– Standard Template Adaptive Parallel Library (STAPL)</li></ul></li><li>• Motion Planning and Machine Learning<ul style="list-style-type: none"><li>– Applied machine learning techniques to robotic motion planning problems</li><li>– Developed autonomous navigation and localization algorithms for mobile robots</li><li>– Researched path optimization algorithms for robotics using roadmaps</li><li>– Texas A&amp;M Campus Navigator Project</li></ul></li></ul>

PROFESSIONAL  
EXPERIENCE  
(CONT.)

**Lawrence Livermore National Lab**, Advisor - Dr. Maya Gokhale, Livermore, CA, USA  
*Student Intern* **Summer 2007 - Fall 2007**

- Member of Storage Intensive Supercomputing (SISC) group
- Experimented with distributed filesystems
- Developed an I/O profiling tool using dynamic interposition libraries
- Researched techniques for implementing External Memory graph algorithms

**CAPSHER Technology, Inc.**, Bryan, TX USA  
*Software Developer* **Spring 2003 - Fall 2003**

- Developed real-time data acquisition and analysis software for oil well performance
- Primary tools used: Visual Studio 6, MFC

**Brazosport Community College**, Lake Jackson, TX USA  
*Math Tutor* **Summer 2000**

- Tutored students in math courses ranging from remedial to Calculus 3

PUBLICATIONS IN  
REFEREED  
JOURNALS AND  
CONFERENCES

Marco A. Morales A., Roger Pearce, Nancy M. Amato, "Analysis of the Evolution of C-Space Models built through Incremental Exploration," In Proceedings of IEEE International Conference on Robotics Automation (ICRA), Rome, Italy, April 2007. (43% acceptance rate)

Samuel Rodriguez, Shawna Thomas, Roger Pearce, Nancy M. Amato, "RESAMPL: A Region-Sensitive Adaptive Motion Planner," In Proceedings of International Workshop on the Algorithmic Foundations of Robotics (WAFR), New York City, NY, Jul 2006. (49% acceptance rate)

Dawen Xie, Marco A. Morales A., Roger Pearce, Shawna Thomas, Jyh-Ming Lien, Nancy M. Amato, "Incremental Map Generation (IMG)," In Proceedings of International Workshop on the Algorithmic Foundations of Robotics (WAFR), New York City, NY, Jul 2006. (49% acceptance rate)

Marco A. Morales A., Roger Pearce, Nancy M. Amato, "Metrics for Analyzing the Evolution of C-Space Models," In Proceedings of IEEE International Conference on Robotics Automation (ICRA), Orlando, Florida, U.S.A., May 2006. (39% acceptance rate)

Marco A. Morales A., Lydia Tapia, Roger Pearce, Samuel Rodriguez, Nancy M. Amato, "C-Space Subdivision and Integration in Feature-Sensitive Motion Planning," In Proceedings of IEEE International Conference on Robotics Automation (ICRA), pp. 3125-3130, Barcelona, Spain, May 2005. (45% acceptance rate)

Marco Morales, Lydia Tapia, Roger Pearce, Samuel Rodriguez, Nancy M. Amato, "A Machine Learning Approach for Feature-Sensitive Motion Planning," In Proceedings of International Workshop on the Algorithmic Foundations of Robotics (WAFR), Utrecht/Zeist, The Netherlands, Jul 2004. (unknown acceptance rate)

Jinsuck Kim, Roger A. Pearce, Nancy M. Amato, "Extracting Optimal Paths from Roadmaps for Motion Planning," In Proceedings of IEEE International Conference on Robotics Automation (ICRA), pp. 2424-2429, vol 2, Sep 2003. (60% acceptance rate)

Jinsuck Kim, Roger A. Pearce, Nancy M. Amato, "Feature-Based Localization using Scannable Visibility Sectors," In Proceedings of IEEE International Conference on Robotics Automation (ICRA), pp. 2854-2859, vol 2, Sep 2003. (60% acceptance rate)

Jinsuck Kim, Roger A. Pearce, Nancy M. Amato, "Robust Geometric-Based Localization in Indoor Environments Using Sonar Sensors," In Proceedings of IEEE/RSJ International Conference on intelligent Robots and Systems (IROS), pp. 421-426, Oct 2002. (60% acceptance rate)

