

Samuel Rodriguez

Parasol Lab
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Education

- Ph.D. in Computer Science(In Progress)**, Texas A&M University 1/03 – Present
Advisor: Nancy M. Amato.
Research in robotic motion planning and group behavior.
- B.S. in Computer Engineering**, Texas A&M University, College Station, TX 8/98 – 12/02
3.703/4.0 GPA. Magna Cum Laude, University and Foundation Honors, Minor in Mathematics

Honors and Awards

National Physical Science Consortium (NPSC) Fellowship *Fall 2005 – Present*
LSAMP Bridge to the Doctorate Fellowship, *Fall 2003–Spring 2005*
University Graduate Merit Fellowship, *Summer 2003–Fall 2003*
IEEE International Conference on Robotics and Automation(ICRA), Travel Grant, 2003
Undergraduate Summer Research Grant Program, *Summer 2002*
Graduated with University and Foundation Honors
Engineering Scholar in Engineering Scholars Program, Dwight Look College of Engineering, 12/02
McFadden Scholarship 8/98 - 5/02
SBC Foundation Scholarship 8/98 - 5/02
NACME(National Action Council for Minorities in Engineering) Scholarship 8/99 - 5/02

Experience

- Research Assistant**, Parasol Lab, Department of Computer Science, Texas A&M University 1/03 – Present
I have worked on adapting various motion planning algorithms to produce more efficient and effective algorithms for path planning in high dimensional space. I have worked on studying shepherding behaviors for a single and multiple shepherds. My work is currently focused on generating and analyzing different aspects of group behaviors ranging from more effective cooperative behaviors within a group to coordinated movement of a group of agents.
- Undergraduate Research**, Department of Computer Science, Texas A&M University Summer 2002 – 12/02
I worked on adapting roadmap connection algorithms for improving the connectivity of probabilistic roadmaps. We published this work at the 2003 IEEE International Conference on Robotics and Automation held in Taipei, Taiwan, September 2003.

Work

National Security Agency (NSA) June – August, 2006 and 2007
I worked on improving the reporting system of an information retrieval application used by analysts. These improvements allow analysts to see more important information faster and can potentially open the door to automatic query generation.

As an undergraduate, I worked at Advanced Micro Devices (AMD) during the summer of 2001 in Sunnyvale, California. I also worked at the Compaq Development Center in Bryan, Texas as a Software Tester during my Junior year as an undergraduate student.

Student Research Advising

- Mr. Robert Salazar (Master's Student) and Mr. Troy McMahon(PhD. Student), Fall 2006 – Present.
Mr. Arnaud Masciotra (Junior, Undergraduate) and Mr. Jean-Phillipe Malric (Junior, Undergraduate), Summer 2004.
I was a judge for the 2004 Undergraduate Student Research Grant program research competition.

Refereed Conference and Journal Publications

- Samuel Rodriguez, Jyh-Ming Lien, Nancy M. Amato. "A Framework for Planning Motion in Environments with Moving Obstacles." *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 3309-3314, Oct. 2007. Acceptance rate = 52% (681/1300)
- Samuel Rodriguez, Shawna Thomas, Roger Pearce, Nancy M. Amato. "RESAMPL: A Region-Sensitive Adaptive Motion Planner." *Proceedings of the International Workshop on the Algorithmic Foundations of Robotics (WAFR)*, July 2006. Acceptance rate = 49% (32/65)
- Samuel Rodriguez, Jyh-Ming Lien, Nancy M. Amato. "Planning Motion in Completely Deformable Environments." *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*, May 2006. Acceptance rate = 39% (680/1756)
- Samuel Rodriguez, Xinyu Tang, Jyh-Ming Lien, Nancy M. Amato. "An Obstacle-Based Rapidly-Exploring Random Tree." *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*, May 2006. Acceptance rate = 39% (680/1756)
- Jyh-Ming Lien, Samuel Rodriguez, Jean-Phillipe Malric, Nancy M. Amato. "Shepherding Behaviors with Multiple Shepherds." *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*, pp. 3413-3418, April 2005. Acceptance rate = 44% (750/1700)
- Marco Morales, Lydia Tapia, Roger Pearce, Samuel Rodriguez, Nancy M. Amato. "C-space Subdivision and Integration in Feature-Sensitive Motion Planning." *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*, pp. 3125-3130, April 2005. Acceptance rate = 44% (750/1700)
- Jyh-Ming Lien, O. Burchan Bayazit, Ross T. Sowell, Samuel Rodriguez, Nancy M. Amato. "Shepherding Behaviors." *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*, pp. 4159-4164, April 2004. Acceptance rate = 59% (855/1450)
- Marco Morales, Lydia Tapia, Roger Pearce, Samuel Rodriguez, Nancy M. Amato. "A Machine Learning Approach for Feature-Sensitive Motion Planning." *Proceedings of the International Workshop on the Algorithmic Foundations of Robotics (WAFR)*, July 2004. Acceptance rate = Unknown.
- Marco Morales, Samuel Rodriguez, Nancy M. Amato. "Improving the Connectivity of PRM Roadmaps." *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*, pp. 4427-4432, September 2003. Acceptance rate = 60% (711/1176)

Unrefereed Publications and Technical Reports

- Samuel Rodriguez, Robert Salazar, Nancy M. Amato. "Roadmap-Based Searching and Hiding Behaviors." *Technical Report, TR07-004, Parasol Laboratory, Department of Computer Science, Texas A&M University*, 2007.
- Aimee Vargas, Jyh-Ming Lien, Marco A. Morales, Samuel Rodriguez, Nancy M. Amato. "User-Guided Path Planning." *Technical Report, TR05-011, Parasol Laboratory, Department of Computer Science, Texas A&M University*, Sep. 2005.
- Jyh-Ming Lien, Samuel Rodriguez, Xinyu Tang, John Maffei, Arnaud Masciotra, Nancy M. Amato. "Composable Group Behaviors." *Technical Report, TR05-006, Parasol Laboratory, Department of Computer Science, Texas A&M University*, 2005.

Additional Information

Programming Languages and Tools: C/C++, Java, Python, Perl, PHP

Operating Systems: Linux, OS-X and MS Windows

Reference and Advisor: Nancy Amato, Department of Computer Science, Texas A&M University, amato@cs.tamu.edu, (979) 862-2275