

Education

Rice University Ph.D. in Computer Science Thesis Advisor: Lydia E. Kavraki, Ph.D.	August 2012 - May 2016 Houston, Texas
University of Nevada, Reno M.S. in Computer Science Thesis Advisor: Kostas E. Bekris, Ph.D.	August 2009 - May 2011 Reno, Nevada
University of Nevada, Reno B.S. in Computer and Information Engineering, <i>with Distinction</i>	August 2004 - May 2009 Reno, Nevada

Employment

Rice University Research and Teaching Assistant, Kavraki Lab	August 2012 – Present Houston, Texas
Rice University Research Programmer, Kavraki Lab	October 2011 – August 2012 Houston, Texas
University of Nevada, Reno Research Assistant, PRACSYS Lab	August 2009 – May 2011 Reno, Nevada
International Game Technology Software Engineer, Core Development	June 2009 – September 2011 Reno, Nevada
International Game Technology Technical Intern, Firmware Test and Game Development Kit	May 2007 – June 2009 Reno, Nevada

Publications

Conference Papers

- (1) **Ryan Luna**, Morteza Lahijanian, Mark Moll, and Lydia E. Kavraki. Asymptotically Optimal Stochastic Motion Planning with Temporal Goals. *The Eleventh International Workshop on the Algorithmic Foundations of Robotics*. pp. 335–352. August 3–5, 2014. Istanbul, Turkey.
- (2) **Ryan Luna**, Morteza Lahijanian, Mark Moll, and Lydia E. Kavraki. Optimal and Efficient Stochastic Motion Planning in Partially-Known Environments. *The Twenty-eighth AAAI Conference on Artificial Intelligence*. pp. 2549–2555. July 27–31, 2014. Quebec City, Canada. (28% acceptance rate).
- (3) **Ryan Luna**, Morteza Lahijanian, Mark Moll, and Lydia E. Kavraki. Fast Stochastic Motion Planning with Optimality Guarantees using Local Policy Reconfiguration. *IEEE International Conference on Robotics and Automation*. pp. 3013–3019. May 31–June 7, 2014. Hong Kong SAR, China.
- (4) Athanasios Krontiris, **Ryan Luna**, and Kostas E. Bekris. From Feasibility Tests to Path Planners for Multi-Agent Pathfinding. *The Sixth Annual Symposium on Combinatorial Search*. July 11–13, 2013. Leavenworth, Washington.
- (5) **Ryan Luna**, Ioan A. Şucan, Mark Moll, and Lydia E. Kavraki. Anytime Solution Optimization for Sampling-Based Motion Planning. *IEEE International Conference on Robotics and Automation*. pp. 5068–5074. May 6–10, 2013. Karlsruhe, Germany.
- (6) Qandeel Sajid, **Ryan Luna**, and Kostas E. Bekris. Multi-Agent Pathfinding with Simultaneous Execution of Single-Agent Primitives. *The Fifth Annual Symposium on Combinatorial Search*. July 19–21, 2012. Niagara Falls, Ontario.

- (7) **Ryan Luna** and Kostas E. Bekris. Efficient and Complete Centralized Multi-Robot Path Planning. *IEEE/RSJ International Conference on Intelligent Robots and Systems*. pp. 3268–3275. September 25–30, 2011. San Francisco, California. (32% acceptance rate).
- (8) **Ryan Luna** and Kostas E. Bekris. Push and Swap: Fast Cooperative Path-Finding with Completeness Guarantees. *The Twenty-second International Joint Conference on Artificial Intelligence*. pp. 294–300. July 16–22, 2011. Barcelona, Spain. (17% acceptance rate).
- (9) **Ryan Luna** and Kostas E. Bekris. Network-Guided Multi-Robot Path Planning in Discrete Representations. *IEEE/RSJ International Conference on Intelligent Robots and Systems*. pp. 4596–4602. Oct. 18–22, 2010. Taipei, Taiwan.
- (10) **Ryan Luna**, Alexis Oyama, and Kostas E. Bekris. Network-Guided Multi-Robot Path Planning for Resource-Constrained Planetary Rovers. *The 10th International Symposium on Artificial Intelligence, Robotics and Automation in Space*. Aug. 29–Sept. 1, 2010. Sapporo, Japan.

Thesis

Ryan Luna. Efficient Multi-Robot Path Planning in Discrete Spaces. Department of Computer Science and Engineering, University of Nevada, Reno. May 2011. **UNR-CSE Outstanding Thesis Award**.

Posters (refereed)

- (1) **Ryan Luna** and Kostas E. Bekris. An Efficient and Complete Approach for Cooperative Path-Finding. *The Twenty-fifth AAAI Conference on Artificial Intelligence*. August 7–11, 2011. San Francisco, California.
- (2) **Ryan Luna** and Kostas E. Bekris. Efficient and Complete Centralized Multi-Robot Path Planning. *The Fourth Annual Symposium on Combinatorial Search*. July 15–16, 2011. Barcelona, Spain.
- (3) **Ryan Luna** and Kostas E. Bekris. Solving Fully-Coupled Multi-Robot Problems with Sequential Plans. *The Ninth International Workshop on Algorithmic Foundations of Robotics*. Dec. 13–15, 2010. Singapore.

Distinctions

- NASA Space Technology Research Fellowship (NSTRF): 2013–2016
- Andrew Ladd Graduate Fellowship for Excellence in Computer Science: Fall 2014
- Outstanding Thesis Award: University of Nevada, Reno. Department of Computer Science and Engineering, 2011
- Full scholarship: JAIST international summer school on Locomotion and Cooperative Robotics. Kanazawa, Japan, August 2010
- Nevada NASA Space Grant Consortium graduate fellowship: Fall 2009
- University of Nevada Reno, College of Engineering Dean’s List: 2007–2009

Professional Service

Peer Review (Referee)

- International Journal of Robotics Research (IJRR)
- IEEE Transactions on Robotics (TRO)
- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)
- IEEE International Conference on Robotics and Automation (ICRA)
- IEEE-RAS International Conference on Humanoid Robotics (Humanoids)
- International Workshop on the Algorithmic Foundations of Robotics (WAFR)
- International Conference on Control, Automation, Robotics and Vision (ICARCV)
- Annals of Mathematics and Artificial Intelligence (AMAI)
- Mediterranean Conference on Control and Automation (MED)

Professional Societies

- Institute of Electrical & Electronics Engineers (IEEE)
Member of IEEE Robotics and Automation Society
- Association for the Advancement of Artificial Intelligence (AAAI)

Open Source Software

- **Primary developer:** *The Open Motion Planning Library* - An open-source library that provides fast and efficient sampling-based algorithms to plan motions for mobile robots, manipulators, and dynamical systems. [<http://ompl.kavrakilab.org>]
- **Primary developer:** *Push and Swap* - A complete, PTIME search algorithm for multi-robot path planning that returns a sequential solution. [<http://www.bitbucket.org/pracsys/pushandswap>]
- **Contributor:** *MoveIt!* - State of the art software for robotic mobile manipulation, incorporating motion planning, manipulation, 3D perception, kinematics, control, and navigation. [<http://moveit.ros.org>]

Extracurriculars

- **Rice Computer Science Graduate Student Association** [<http://csgsa.rice.edu>]
Officer: 2014-2015 academic year
Prospective graduate student visit organizer: 2014, 2015
New graduate student mentor: 2013-2015