W. Cannon Lewis II

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Education

Rice University

PhD, Computer Science, — *GPA: 4.0*
B.S., Computer Science, May 2018 *GPA: 3.97*
B.A., Mathematics, May 2018 *GPA: 3.91*

Research

Army Research Laboratory, Adelphi, Maryland 2018
Summer Journeyman Fellow
Project: *Robust Mission Planning through Behavior Trees*
- Designed mission planner based on behavior trees.
- Implemented mission planner for large robotic system.

Kavraki Lab, Rice University, Houston, Texas 2017–2018
Undergraduate Research Assistant
Project: *Hidden Constraints in Robotic Reinforcement Learning*
- Investigated Deep RL applied to robotic manipulators.
- Found that current methods do not scale.

Project: *Multi-Robot Task and Motion Planning*
- Researched task-and-motion planning for two robots.
- Used TMKit to plan for two UR5 manipulators.

Wah Chiu Lab, Baylor College of Medicine, Houston, Texas 2015
CPRIT Undergraduate Fellow
Project: *Computational Filtering of Cryo-Electron Tomograms*
- Improved NAD filtering of cryo-EM tomograms.
- Labeled and processed tomograms of huntintin protein.

Teaching

Rice University, Computer Science

Teaching Assistant, Algorithmic Robotics 2019
Teaching Assistant, Introduction to Computer Systems 2019
Teaching Assistant, Algorithmic Robotics 2017
Teaching Assistant, Functional Programming 2016
Teaching Assistant, Algorithmic Thinking 2016

Rice University, Mathematics

Teaching Assistant, Linear Algebra 2016
Teaching Assistant, Honors Multivariable Calculus IV 2016
Teaching Assistant, Honors Multivariable Calculus III 2015

Awards

K2I Computational Science and Engineering Fellowship	2018
Army Research Lab Summer Journeyman Fellowship	2018
Rice Engineering Alumni Distinguished Research Excellence Award	2018
Rice Engineering Alumni Senior Merit Award in Computer Science	2018
Rice Undergraduate Research Symposium Excellence in Research	2018
Rice Undergraduate Scholars Program	2017
Excellence in Collegiate Journalism - Critical Review	2016/2017
CPRIT Undergraduate Research Fellowship	2015
Rice University President's Honor Roll	2014–2018

Activities

Fall 2019
Rice Machine Learning Lunch Coordinator
Spring 2019
Rice Machine Learning Lunch Coordinator
Host of Rice Computer Science Department podcast
Fall 2018
Rice Machine Learning Lunch Coordinator
Rice Graduate Student Association Media Committee Member
Host of Rice Computer Science Department podcast
Spring 2018
Yates High School FIRST Robotics Mentor
Fall 2017
Rice Undergraduate Research Symposium Think Tank member
Co-reviewer for ICRA 2018 with Lydia Kavraki

Interning

Rice IT Department, Houston, Texas – Student Consultant 2015–2017
- Assisted students and faculty with computer repairs.
- Consulted on common computer problems and purchases.

Two Sigma, New York, New York – Software Engineering Intern 2016
- Worked as a software engineer for statistical modelers.
- Implemented distributed NLP techniques for Elasticsearch.

Rackspace, San Antonio, Texas – Software Development Intern 2012–2013
- Migrated internal Ruby on Rails 2 apps to Rails 3.
- Built internal campus map in Python and HTML/CSS.
- Rewrote billing software to use Java actor-based parallelism.

Papers

1) Lewis, W. Cannon II, Moll, Mark, and Kavraki, Lydia E. "How Much Do Unstated Problem Constraints Limit Deep Robotic Reinforcement Learning?." (2019) https://doi.org/10.25611/az5z-xt37

2) Lewis, W. Cannon II, Moll, Mark, and Kavraki, Lydia E. "Piecewise Affine Reinforcement Learning for Motion Planning." (In Submission to ICRA 2020)

Rel. Coursework

Data and Systems (**ELEC 519**)	Fall 2019
Numerical Optimization (**CAAM 564**)	Spring 2019
Mathematical Probability 1 (**STAT 581**)	Fall 2018
Intro. to Random Processes and Appl. (**CAAM 583**)	Fall 2018
Introduction to Robotics (**COMP 498**)	Spring 2018
Artificial Intelligence (**COMP 440**)	Fall 2017
Statistical Machine Learning (**COMP 540**)	Spring 2017
Algorithmic Robotics (**COMP 450**)	Fall 2016