Colin M. Rennie

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EDUCATION

PhD, Department of Computer Science   Fall 2014 - Present
Rutgers University, Piscataway, NJ
Graduate research and coursework focusing on robotics, control systems,
motion planning, and machine learning.

Bachelor of Science   Fall 2006 - Spring 2011
Sonoma State University, Rohnert Park, CA
Major in Finance, minor in Computer Science (Cum Laude)
Concentration on computational finance.

RESEARCH AND TEACHING EXPERIENCE

Graduate Research Assistant - PRACSYS Lab   Fall 2016 - Present
Rutgers University - Piscataway, NJ
Supervisor: Dr. Kostas Bekris
Focus on development of motion primitives for informed motion planning and control
for complex Tensegrity robots. Implementation of CPG systems, iLQR trajectory
optimization, and physics engine integration.

Graduate Summer Intern - Pirate Lab   Summer 2016
NASA Ames Research Center - Mountain View, CA
Supervisor: Vytas Sunspiral
Summer research collaboration centered on Bayesian optimization for dynamic movement primitive/maneuver generation in a snake-like system.

Teaching Assistant - CS674: Seminar in Robotic Learning   Spring 2016
Rutgers University - Piscataway, NJ
Professor: Dr. Abdeslam Boularias
Topics covered: Classical robotics, Optimal control, Kinematics, Dynamics, Reinforcement learning, Learning from demonstration, Model learning, Grasping, and Manipulation.

Teaching Assistant - CS520: Intro to Artificial Intelligence   Fall 2015
Rutgers University - Piscataway, NJ
Professor: Dr. Abdeslam Boularias
Topics covered: Heuristic search, Adversarial search, Constraint satisfaction problems, Bayesian networks, Hidden markov models, Kalman and Particle filters, Markov decision processes, Linear models, Neural networks, Kernel methods, Gaussian processes, Reinforcement learning.

Research Asst. - Center for Adaptive Behavior & Cognition   Spring 2009
Max-Planck Institute for Human Development - Berlin, Germany
Supervisor: Dr. Henry Brighton
Research project using large health questionnaire response dataset, focused on reducing length while retaining predictive capabilities of responses in terms of future health risk. Side-by-side analysis of various machine learning algorithms.

PROFESSIONAL EXPERIENCE

Senior Analyst - Corporate Development Group August 2012 - August 2013
RPX Corporation - San Francisco, CA
Development of patent valuation estimation tools based on litigation, ownership, and market data. These insights were used as primary decision-making tools for the company - one of the largest purchasers of domestic Intellectual Property assets.

Analyst - Data Science Group July 2011 - August 2012
RPX Corporation - San Francisco, CA
Design of relational databases, external data source Input/Output protocol, and maintenance mechanisms for patent ownership, licensing, and litigation data.

PUBLICATIONS "A Dataset for Improved RGBD-based Object Detection and Pose Estimation for Warehouse Pick-and-Place." **Rennie, Colin**, Rahul Shome, Kostas E. Bekris, and Alberto F. De Souza. IEEE Robotics and Automation Letters 1, no. 2: 1179-1185. (2016) [Journal version - around 33% acceptance]

PRESENTATIONS

A Dataset for Improved RGBD-based Object Detection and Pose Estimation for Warehouse Pick-and-Place
First Annual Workshop on Recovering 6D Object Pose - International Conference on Computer Vision (ICCV), 2015 [Poster]

A Dataset for Improved RGBD-based Object Detection and Pose Estimation for Warehouse Pick-and-Place
IEEE International Conference on Robotics and Automation (ICRA), 2016 [Oral/Poster]

AWARDS

GAANN Fellowship - Rutgers University   *Fall 2014 - Spring 2015*
Tribal Scholarship - Citizen Potawatomi Nation   *Fall 2014*
Dean's List - Sonoma State University (6 semesters)   *Fall 2006 - Spring 2011*