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EDUCATION

Corvallis, OR **Oregon State University** **Class of 2019**

- Major in Computer Science, B.S.; **Current GPA: 3.9.**
- **Undergraduate Level Coursework:** Data Structures; Algorithms; Linear Algebra; Discrete Math; Statistics
- **Graduate Level Coursework:** Reinforcement Learning and AI; Machine Learning; Deep Learning; Natural Language Processing; Convex Optimization; Algorithms

EMPLOYMENT

Research, Undergraduate **Oregon State University** **Fall 2015 - Present**

- Developed continuous Deep Reinforcement Learning and Stochastic Control techniques for the control and motion planning of biped robots, specifically for Oregon State's ATRIAS and Cassie biped robot platforms.
- Work includes extending stochastic tree search to continuous spaces, and incorporating human feedback to improve learning in policy gradient methods. Paid under REU grant, including full time in summer 2016 and 2017.

Software Engineer, Intern **Autodesk** **Summer 2015**

- Led a sub-team of 3 other interns to expand capabilities of the robot simulator created in my 2014 internship.
- Refactored large codebase/program architecture to work with Bullet Physics and OpenGL instead of Unity. Migrated code from C# to C++.
- Led team to large improvements in GUI usability and physics accuracy as well as a significant addition of features.

Software Engineer, Intern **Autodesk** **Summer 2014**

- Worked on preliminary Oculus Rift usage with Autodesk Inventor.
- Worked on a team with 7 other interns on developing a fully featured real-time CAD-to-simulation tool for FIRST Robotics Competition (FRC) robots (including code emulation).
- Used Inventor C# API to extract mesh and physics data, vHACD C++ API to perform convex hull decomposition, and Unity as a physics and graphics engine, all tied together a custom C#.NET GUI.

TECHNICAL EXPERIENCE

Personal Projects

- **RL** (2017). A python library that contains modular implementations of continuous deep reinforcement learning algorithms in Pytorch. Includes recent advances like Proximal Policy Optimization and Generalized Advantage Estimation as well as features like real-time graphs and advanced logging. Pytorch, Numpy, Bokeh
- **955 OPR Calculator** (2015). An open source competitive analysis tool for FRC teams. Used worldwide by teams from Canada to Israel in the 2015 competition season. Made performance predictions using machine learning and mined data. Javascript, JQuery, HTML5

ADDITIONAL EXPERIENCE AND AWARDS

- **Peer Mentor:** Selected for experience, passion and interpersonal skills to be a peer mentor in a program that facilitates research opportunities for historically underrepresented/disadvantaged students in STEM fields
- **4th Place:** Placed 4th overall and awarded Best Athletic Enhancement prize at Quackcon 2016 MLH event for Buckets++, an app that analyzes complex basketball player data and outputs performance predictions.

Publications

- Clary, **Morais** et al, 2018, "Monte-Carlo Planning for Agile Legged Locomotion". *International Conference on Automated Planning and Scheduling*.