

JUSTIN WASSERMAN

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EDUCATION

University of Illinois at Urbana-Champaign

PhD in Electrical and Computer Engineering

August 2019 - Present

Urbana-Champaign, IL

- Advisor: Dr. Girish Chowdhary

University of Illinois at Urbana-Champaign

B.S in Computer Engineering

August 2014 - May 2019

Urbana-Champaign, IL

- Thesis: Controlling, Modeling, and Scaling Underactuated, Non-Deterministic Robot Structures (Advised by Dr. Steven LaValle)
- Cumulative GPA: 3.61/ 4.00

PUBLICATIONS

A. Nilles, J. Wasserman, A. Born, C. Horn, J. Born, S. LaValle "A Hardware and Software Testbed for Underactuated Self-Assembling Robots" in IEEE International Symposium on Multi-Robot and Multi-Agent Systems (MRS), 2019

RESEARCH EXPERIENCE

FRESH (Dr. Girish Chowdhary)

Research Assistant

August 2019 - Present

Urbana, IL

- Collaborating with Dr. Saurabh Gupta on applying topological maps to real world robots, as well as researching into methods for allowing ground robots to navigate in dynamic environments.
- Created biologically inspired neural network for action recognition. By incorporating this model into a previously trained model, accuracy was improved.

VRMSL (Dr. Steven LaValle)

Undergraduate Researcher

January 2017 - August 2019

Urbana, IL

- Created simulator in Gazebo to collect data on the interaction of simple, non deterministic, self-assembling, "bouncing" robots.
- Maintainer and creator of "kronprod" library, an open source library available on Anaconda.
- Implemented data analysis of captured robotics data using Python, and CUDA.

DASLAB (Dr. Girish Chowdhary)

Undergraduate Researcher

May 2018 - August 2019

Urbana, IL

- Created CNN trained on robot's camera data to assist in autonomous navigation.
- Implemented framework to enable nightly end to end testing on the TerraSentia robot. This involves interactions between the software on the robot, Gazebo, our code repositories, and a tablet.

AWARDS AND HONORS

Leung Student Venture Fund Award

UIUC ECE Department

2019

- Awarded \$1000 to support research in self-assembling robotics for senior thesis.

INDUSTRY EXPERIENCE

EarthSense

Deep Learning Intern

May 2019 - August 2019

Champaign, IL

- Created pipeline to allow for streamlined training and testing of deep learning models.
- Applied deep learning techniques to agriculture data.

Arity

Software Engineering Intern

January 2018 - May 2018

Chicago, IL

- Translated high level motion data from a car to movement on a testbed robot to create a platform to demonstrate the captured motion data.
- Created device that simulates car trips through the OBD port. Also created web interface to allow developers to interact with the device. Resulted in developers being able to test firmware on thousands of different real and simulated car trips.

Yaskawa America Inc.

Applications Engineering Co-Op

May 2016 - January 2017

Waukegan, IL

- Built software library for motion applications for gantries, Cartesian robots, robotic arms, and other robotics applications.
- Programmed and presented interface and gantry that was used as a demonstration at the International Manufacturing Trade Show.
- Created test cases and documentation for motion and math code, and different applications that Yaskawa supports.

Cornelius

Computer Engineering Intern

May 2017 - August 2017

Glendale Heights, IL

- Created Python code to communicate with customer device using a Raspberry Pi. Raspberry Pi then communicates with server to allow users to read data about their device from website.
- Implemented hardware and software for new valve technology by controlling electronics through a feedback loop. Resulted in a more tamper proof machine that can allow for more soft drink options due to size of valve.

Maclean-Fogg Engineered Plastics

Engineering Intern

May 2015 - August 2015

Menomonee Falls, WI

- Authored lean production standard manual. Documentations has resulted in \$180,000.00 savings in inventory adjustments.
- Created and implemented shop floor instruction protocols for work standards yielding \$1,500.00 annual labor cost reduction.

TECHNICAL STRENGTHS

Computer Languages
Computing

Python, Shell Scripting, C++, C
Linux, Vim, Pytorch, ROS, Git, L^AT_EX

TEACHING ASSISTANCE EXPERIENCE

ENG 298 LRM

Teaching Assistant

Fall 2015, Fall 2017

Urbana-Champaign, IL

- Taught collegiate students how to mentor middle school aged students in Lego robotics and First Tech Competition.
- Communicated with local teams, coaches, and students to organize mentorships.