

# SRIDHAR THIAGARAJAN

www.linkedin.com/in/sridhartee — https://sritee.github.io/  
www.github.com/sritee ♦ thiagars@oregonstate.edu , +1-5419083285

## SUMMARY

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Motivated robotics graduate student with over three years of experience in machine learning, reinforcement learning and controls. I am currently looking for a challenging Summer 2019 internship.

## EDUCATION

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**M.S in Robotics, Oregon State University** *Sept 2018-20*  
Autonomous Agents and Multiagent Systems, Large Scale Optimization, Intro. to Robotics

**Bachelor of Engineering, Anna University CGPA- (8.31/10)** *May 2018*

## TECHNICAL SKILLS

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- Programming: Python, C++, MATLAB
- Solvers/Libraries/Software: CVX, TensorFlow, ROS, OpenCV, Git Gazebo
- Self Study: Bishop's Pattern Recognition and Machine Learning, Convex Optimization by Stephen Boyd, Richard Sutton's Introduction to RL, Stephen Abbott's Understanding Real Analysis

## EXPERIENCE

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**IIIT Delhi** May 2017 - Oct 2017  
*Machine Learning Intern* [\[Poster\]](#)

- Designed and evaluated RL based adaptive traffic light controllers, and compared them to non-adaptive baseline controllers in terms of average wait time. It was found to be an improvement by over 21 percent.
- Implemented and tested state-of-the-art one shot imitation learning algorithms in Tensorflow on a simulated Gazebo environment, studying the effect of an egocentric view video on learning capability.

**Swaayatt Robots** Dec 2016 - Feb 2017  
*RL for Autonomous Driving*

- Designed and tested off-policy RL methods for steering control of an autonomous vehicle. Goal was to perceive and steer smoothly along a trajectory by formulating and approximately solving an MDP.
- Integrated information from 3 sensors mounted on the vehicle which were publishing information using ROS topics. Designed the actuation mechanisms (brakes, steering, accelerator) for converting the vehicle to drive-by-wire.

## ACADEMIC PROJECTS (SELECTED)

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- Autonomous Overtaking using Reinforcement Learning [\[Report\]](#)
  - Implemented several research papers in options framework, a temporal abstractions framework and designed a PyGame simulator to test a proposed framework for autonomous driving.
- Convex Optimization Solver [\[Code\]](#)
  - Built a interior point method based convex optimization solver in MATLAB. General solver which assumes differentiability everywhere, and uses second order methods for optimization.
- Autonomous Beach Cleaning Robot [\[Video\]](#)
  - Led team of three which developed an autonomous beach cleaning robot. My role was in team organization, ML for litter detection, and prototype design.