

# Sahit Chintalapudi

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## EDUCATION

### GEORGIA INSTITUTE OF TECHNOLOGY

#### BS IN COMPUTER SCIENCE

December 2019 | Atlanta, GA

Concentrations in Theory and Intelligence

GPA: 3.94 / 4.0

## SKILLS

### Programming Languages:

Python, C++, Java

### Tools:

Linux, ROS (Robot Operating System),

Vim, Protobuf, MATLAB,  $\LaTeX$

## COURSEWORK

Machine Learning

Interactive Robot Learning

Computer Vision

Second Course in Linear Algebra

Honors Design and Analysis of Algorithms

Honors Probability and Statistics

Introduction to Artificial Intelligence

Robotics and Perception

## AWARDS

President's Undergraduate Research

Award - Grant Awarded

Google Tech Challenge 2019 - 1st Place

Sparkfun Autonomous Vehicle

Competition 2018 -

Best Collegiate Speed Demos Team

Google Games 2018-3rd Place

Sparkfun Autonomous Vehicle

Competition 2017 -

Autonomous Car Wars Winner

International Autonomous Robot Racing

Competition 2017 - 3rd Place

Swamphacks 2017-Best use of ClarifAI

Swamphacks

2017-HackHarassment Award

## LINKS

GitHub: [github.com/chsahit](https://github.com/chsahit)

LinkedIn:

[linkedin.com/in/sahit-chintalapudi](https://linkedin.com/in/sahit-chintalapudi)

## RESEARCH

### DEEPMIND | RESEARCH ENGINEERING INTERN

March 2020 – Present | London, UK

- Studying Reinforcement Learning for manipulation policies
- Improved internal infrastructure for collecting human demonstrations of manipulation in simulated environments.

### ROBOT LEARNING LAB | UNDERGRADUATE RESEARCHER

April 2017 – Present | Georgia Tech, GA

- K. Kolur\*, **S. Chintalapudi\***, M. Mukadam, B. Boots, Online Motion Planning Over Multiple Homotopy Classes with Gaussian Process Inference, IROS. 2019
- Used C++, MATLAB, and the GTSAM toolbox to model the planning problem with a factor graph that adapted in real time to environment changes. In an environment with randomly moving obstacles, this algorithm reduced collision intensity by at least 37% compared to other approaches.
- Extending existing implementations of Model Predictive Control algorithms to run on the AutoRally platform and log data for Value Function Approximation

### HUMAN-CENTERED ROBOTICS LAB | RESEARCH ASSISTANT II

May 2019 - Aug 2019 | University of Washington, WA

- Implemented a Jacobian-Based Full-Body Controller for the Fetch Robot to perform research on mobile manipulation with ROS and C++
- Researched Task Decomposition to facilitate high dimensional planning in the context of autonomous cleaning, advised by Dr. Maya Cakmak

### SEARCH BASED PLANNING LAB | RI SUMMER SCHOLAR

June 2018 - August 2018 | Carnegie Mellon University, PA

- V. Ranganeni, **S. Chintalapudi**, O. Salzman, M. Likhachev, Effective Footstep Planning Using Homotopy-Class Guidance, (Accepted Pending Revision) Artificial Intelligence (AIJ). 2019.
- Developed C++ Software for a humanoid footstep planner which plans 16-128 times faster than the baseline approach in environments with many obstacles

## PROJECTS

### MELEEML September 2019 – December 2019

- Trained a Generative Adversarial Imitation Learning (GAIL) agent to learn how to play Super Smash Brothers Melee (SSBM) from Human Demonstration using PyTorch
- Designed and implemented an advantage actor-critic model to play SSBM by training against existing CPUs

### ROBORACING: AUTONOMOUS RC CARS | SOFTWARE LEAD

September 2016 - October 2018

- Prototyped different deep network architectures in Keras for end to end learning of steering autonomous vehicles from images of the road.
- Managed a team of seven other developers, using GitHub issues to track team progress and coordinating with mechanical and electrical team leads
- Trained an SVM that detects the road in an image with OpenCV and Python
- Developed the PID controller which acted as an interface between the hardware and the racing AI on an Arduino
- Used the OpenCV Circle Hough Transform to identify the race start signal