

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: 3.93 / 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 Demons 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

LinkedIn:

linkedin.com/in/sahit-chintalapudi

RESEARCH

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

HUMAN-AUTOMATION SYSTEMS LAB | RESEARCHER

January 2017 – May 2017 | Georgia Tech, GA

- Choreographed a telepresence robot to be expressive by modifying the motion profiles of the robot's controllers with Java, advised by Dr. Ayanna Howard.

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