

# Rohit Mittapalli

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Undergraduate looking for summer internships in data analysis, machine learning, and full-stack development.

## Education

### Georgia Institute of Technology

**Graduation:** May 2021

Bachelors in Computer Science

**GPA:** 4.00

**Courses:** Linear Algebra, Computational Science, Number Theory, Discrete Mathematics, Non-Euclidean Geometries

**Certifications:** Udacity Data Science Analyst Nanodegree Program, Udemy Apache Spark with Java, Udacity Developing Android Apps, Udemy AWS Machine Learning with Python, Udemy Deep Learning Prerequisites: The Numpy Stack in Python

**Achievements:** Vanderbilt Hackathon Awards, International Student Science Fair representative, Illinois Junior Academy of Science Gold Award and Navy Award, Meritorious in High School Mathematics Contest in Modeling, National Merit Finalist

## Skills

**Languages:** JAVA, C#, C++, Python, SQL, R, HTML/CSS, Spark, MATLAB

**Frameworks/Tools:** Android Studio, TensorFlow, GIT, AWS ML Studio, Tableau, LaTeX, Maven, Jupyter Notebooks, Bootstrap

**Mechanical Skills:** Autodesk Inventor, CNCs, Lathe/Mills, Plasma Cutter, 3D printing

## Work Experience

### The Home Depot Search Components Team (Atlanta, GA)

**January 2018 – Present**

*Software Engineering Intern*

- Creating a metric for Home Depot TypeAhead predictions using Word2Vec and a RNN for diversity evaluation
- Used to evaluate modifications in comparison to previous models and current competitors
- Replaces current Home Depot biased metric of search diversity with an objective metric derived from external data

### Northwestern University (Evanston, IL)

**June 2015 – June 2016**

*Student Researcher*

- Explored the effect of experts and noise on the probability of a correct informational cascade
- Investigated bandwidth allocation schemes in a heterogenous network of femtocells and macrocells
- Designed a unique computational Markov Chain model with more nuances than current mathematical models

### Illinois Mathematics Science Academy (Aurora, IL)

**June 2016 – August 2016**

*Student Researcher*

- Generated simulations in C of minimalist robotic swarms capable of working together to approximate a gradient
- Utilized swarm concepts of gradient descent and physicomimetics to solve decentralized tasks to blueprint future robots

## Projects

### ML Drunk Driving Detection—Microsoft Machine Cup

**Present**

- Developing an algorithm to use a convolutional neural network on Kinect infrared images to detect inebriated drivers
- Using data from a gyroscope mounted to a steering wheel to create a phased LSTM neural network to detect unsafe/inebriated driving

### WeLocate—Vandy Hacks (*Most Disruptive Hack* by RedVentures / *Best Financial Hack* by Capital One)

**October 2017**

- Created the machine learning on AWS and python scripts for data collection across multiple open APIs
- Created a web app for small business owners to capture relevant data and use machine learning to find startup locations

### Pokémon Go—Swarm Algorithm

**June 2016 – August 2016**

- Created a heuristic swarm algorithm to find a Euclidean circuit across my local park to optimize Pokémon Go loot
- Tested algorithm on distance weighted graph of a local park and improved efficiency from 18 to 21 stops in 30 minutes

### Home Depot Convolutional Neural Network

**November 2017**

- Created a convolutional neural network in Tensor Flow and Python to categorically sort product images
- Sorted images of chandeliers, windows, lamps and similarly related items with 91% accuracy

### Time Allocator App

**November 2017**

- Developed an Android application to store and plan tasks using login authentication and data storage from Google Firebase
- Implemented a scheduling algorithm that given a variable time, generates optimal schedule based on urgency and length of each task

## Leadership/Activities

### FRC Robotics

**September 2015 – Present**

*CAD Head, Captain, Adult Mentor*

- Led a 55+ member team, organized sessions, managed finances and mechanically supervised for over 500 documented hours
- Increased retention rate by over 200%, increased population from 20 to over 55 members, more than doubled total man hours

### Computational Finance Club @ Georgia Tech

**November 2017 – Present**

*Treasurer, Undergraduate Head*

- Handles club account with student government, organizes budgets, and maintains ledger of voting membership
- Creating undergraduate awareness of the club and initiative by hosting joint master and undergraduate computational contests

### Automated Algorithms Design – Vertically Integrated Project

**January 2018 – Present**

- Designing machine learning, genetic, and evolutionary algorithms to outperform optimization methods and existing algorithms
- Leverage these algorithms to real datasets beginning with sample Titanic data