Rohit Mittapalli

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Undergraduate looking for summer internships in data analysis, machine learning, or software engineering.

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: Citadel Data Open at Georgia Tech Winner, Vanderbilt Hackathon Awards, International Student Science Fair representative

Skills

Languages: JAVA, Python, C#, C++, SQL, R, HTML/CSS, Spark, MATLAB
Frameworks/Tools: Android Studio, TensorFlow, GIT, AWS ML Studio, Tableau, LaTeX, Maven, Jupyter Notebooks, Bootstrap

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 Imagine 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

Citadel Data Open **February 2018**
- Won $20,000 at a Citadel hosted data open along with a team of three
- Analyzed smart city data to optimal place public service buildings in six cities across America using heatmaps and a random forest

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