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: 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 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

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