**Rohit Mittapalli**

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**Education**

**Georgia Institute of Technology Graduation: May 2021**

Bachelors in Computer Science GPA: 4.00

**Illinois Mathematics and Science Academy Graduated: June 2017**

High School Diploma GPA: 3.88

**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 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*

* Studied 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**

**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

**HiMCM Marathon Modeling October 2016**

* Modeled a triathlon as a Newtonian fluid in C# and used Monte Carlo to model real-life data
* Created an optimal schedule for a proposed event and proved computational ability to optimize real situations

**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*

* 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