



**February 21 - 22**

# **RISHI BHATNAGAR**

Founder and Chairman

**ABD**SOCIETY

# Ground Rules Slide

- Use wifi network 'RedGuests'
- Keep your badge on and visible
- Stay in the "Curve"
- Charging Stations and the Curve Seats
- Smoke in the Gazebo - use the buddy system
- Four restrooms available in the Curve
- When you have formed your team and picked your track, be sure to register it with the volunteers in Albert. Deadline 10pm....
- Have fun!



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# Economic and Social Mobility

## *The Defining Issue of Our Time*

- 25% of Charlotte's children experience poverty.
- 44% of Mecklenburg County children ages 0-5 live in households earning below 200% of the Federal poverty level.
- The poverty rate of working age African Americans and Hispanics is twice that for whites in Charlotte.
- 14.5% of young people ages 16-24 are neither working nor going to school or training.

# Opportunity System Strategy

*For Children, Youth and Families*

## Cross-Cutting Factors

1. Segregation
2. Social Capital

## Key Determinants

1. Early Care and Education
2. College and Career Readiness
3. Child and Family Stability



# **Our North Star Goal**

**Within a generation,  
every child in Charlotte-Mecklenburg  
will have an equal chance to achieve  
social and economic success.**

# Third Annual Queen City Hackathon

- 450+ Participants
- 3 Tracks
  - Judged: Charlotte Economic Mobility
  - Kaggle: Charlotte Well-Being Data
  - AWS DeepRacer
- \$15,000 in Prize Money



	Track: Open Ended	Track: Kaggle	Track: Deep Racer	Food
5:00 PM	Registration Opens / Mini-Career Fair			
5:30 PM				
6:00 PM			Deep Racer Workshop (Albert) Starts 5:45	
6:30 PM				
7:00 PM	Event Kickoff / Opening Speaker (Main Auditorium)			Dinner - 7 to 9pm
7:30 PM	Hacking Begins; Technical and Business Expert volunteers available to answer questions (Auditorium)		Deep Racer Workshop and Support (Albert)	
8:00 PM				
8:30 PM				
9:00 PM				
9:30 PM				
10:00 PM	Team Formation Deadline (10:00 PM) - Come to Albert to Officially Form Your Team And Pick Your Track (Albert)			
10:30 PM				
11:00 PM				
11:30 PM				Midnight Snack - 11:30 PM - 12:30 AM
12:00 AM				
12:30 AM	Work Time	Checkpoint submissions Due @ Midnight, top virtual deep racer time and top kaggle submission win mini prize		
1:00 AM	Mini-Midnight Awards Session			

	Track: Open Ended	Track: Kaggle	Track: Deep Racer	Food
7:00 AM	Work Time	Checkpoint submissions Due @ 7 am, top kaggle submission win mini prize	Work Time	Breakfast 7am - 9am
7:30 AM				
8:00 AM				
8:30 AM				
9:00 AM	Digital Submissions Due For Judge Review @ 9 AM. Judges arrive and debriefed.	Work Time		
9:30 AM			Final Virtual Race Submissions Due @ 9:30 AM	
10:00 AM	Judges Begin Visiting and Prepping Teams; 10:00am to 11:30am		Physical Car Racing 9:30 am - 1:30 pm	
10:30 AM				
11:00 AM				
11:30 AM	Final Presentations (Private)			
12:00 PM			Final Kaggle Submissions Due @ Noon	Lunch 12 pm - 2 pm
12:30 PM	Judges Meet Deliberate, determine open ended winner; 12:30 - 1:30 PM			
1:00 PM				
1:30 PM	Final Awards and Remarks (Auditorium) @ 1:30 PM			

Data

# Economic Mobility Data

- **Charlotte Open Data Portal** - <https://data.charlottenc.gov/>
  - Over 150 datasets across 6 categories:
    - About Charlotte
    - Economic Development
    - Housing & Neighborhoods
    - Community Safety
    - Environment
    - Transportation
- **Leading On Opportunity: 21 Community Strategies for Economic Mobility**
  - What are the main challenges to economic mobility in Charlotte?
  - <https://www.leadingonopportunity.org/report/executive-summary>

# Kaggle Data

- **Aggregated Data of Socio Economic Indicators by Year and by Geographical Area**
  - Features include:
    - Economy
    - Education
    - Community Engagement
    - Environmental Factors
    - Health
    - Housing
    - Safety
    - Transportation

# Where to Get Data

## Datasets are available on Slack:

- To gain access to the workspace:
  - <https://queencityhack-j7h5744.slack.com>
- Use this link to sign up if you are a Red Ventures employee
  - <https://join.slack.com/t/queencityhack-j7h5744/signup>
- *Still having problems getting into Slack? Flag down a volunteer to help get registered! They will need your name and email address.*
- Kaggle Datasets are in the #kaggle-track channel

# AWS DeepRacer Track

- A 1/18th scale, battery powered vehicle
- Designed to autonomously drive around track
- Uses trained reinforcement learning models to navigate
- Enable competitors to train a RL model in a controlled, simulated environment
- Competitors define what the model should find most valuable with custom functions
- We will be leveraging the community race platform with race name QueenCityHackathon



# Prompts



# Economic Mobility: Open Ended Prompt

***Leverage at least one dataset from the Charlotte Open Data Portal to create a tool, policy, predictive model, or other software to help address Charlotte's low levels of upward mobility.***

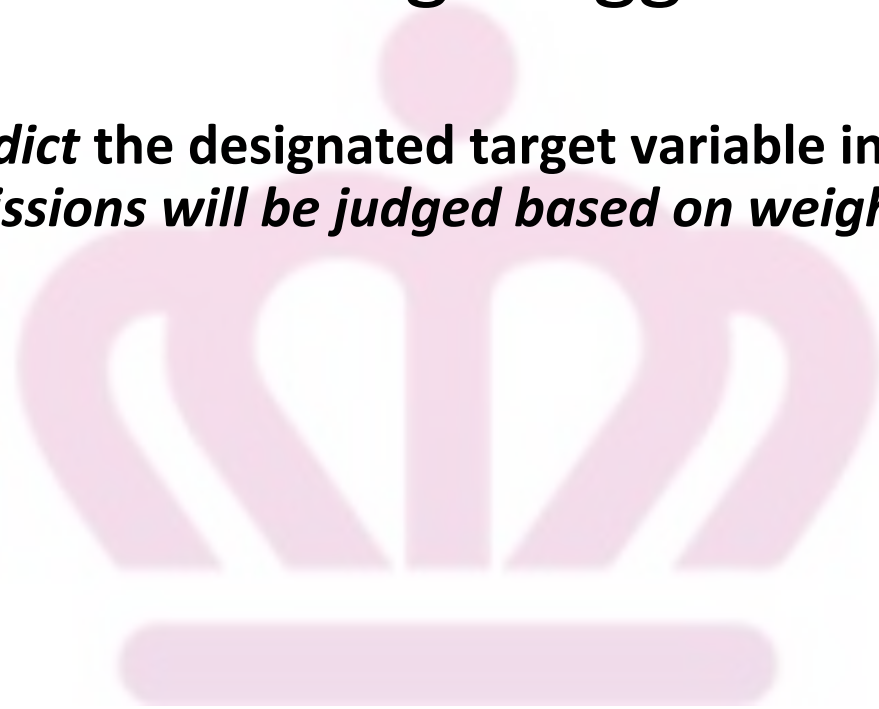
Teams will give a brief overview of their project during preliminary judging and finalist will be asked to give a 5-minute presentation to the complete panel of judges.

Questions? Try the Slack channel: #open-ended

*Prompts*

# Charlotte Well-Being: Kaggle Competition

***Accurately predict the designated target variable in the training dataset. Submissions will be judged based on weighted mean squared error.***



Questions? Try the Slack channel: #kaggle-track

*Prompts*

# How to Submit Kaggle prediction

1. Predictions should be submitted via Leaderboard website, which is provided in the Kaggle slack channel - <http://qc-hackathon-2020.s3-website-us-east-1.amazonaws.com/>.

Note:- you MUST be on the Red Ventures network to access this URL

2. You need to take the following steps to submit -

- a. Register your team on the scoreboard app. Save your submission key.
- b. Create a folder called 'submission'.
- c. Include your file with predictions named 'predictions.csv'. This file should contain 1 column with **no header** with numerical predictions (45 rows - order determined by data in testing.csv).
- d. Inside the submission folder, create a folder called 'code'. This should contain the code you used to build your model and generate predictions. Submissions that are not reproducible will be disqualified.
- e. Zip the submission folder and submit using your team's submission key that you will get when you register on the scoreboard.

Note: You can use this command if you are having issues with zipping:- “zip -r submission.zip submission”

Note: An example submission will be available in the kaggle slack channel

3. Rules

- a. We will only consider the LATEST submission as your current score. So, you are responsible for keeping track of your own best models.
- b. There are mini prizes for the leading team at 12:30 am and at 7:00 am.
- c. You are only allowed to submit 8 times per hour.
- d. Your last submission time is 12:00 pm on Saturday.
- e. The leaderboard will stop updating in real time at 11:00 am for extreme suspense and intrigue.

# AWS DeepRacer

*Train a model to autonomously drive an AWS DeepRacer car around a physical track. Your team will train your model in a virtual environment and use it to race around a physical track.*

- [Sign Up Here: AWS Community Race](#)
- [AWS DeepRacer: Getting Started Resources](#)

Questions? Try the Slack channel: #deep-racer

# Thanks to this Year's Sponsors!



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