

Agent-Based Modeling of COVID-19 Outbreaks in North Carolina

2020 Internship Showcase

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Background

- The world is experiencing the COVID-19 pandemic
- Scientists and researchers have been working to better understand this new virus so we can make proper decisions in response



Problems

- Studying the COVID-19 cases in North Carolina (NC) counties
 - What does the trend look like?
 - Any difference for urban counties and rural counties?
 - Does quarantine help?
- Producing a model that predicts the trends and cases in NC



Approaches

- Calculate important variables in each county
 - Growth rate, transmission rate, delays between counties
- Use SEIR model to predict future cases
 - SEIR: Susceptible, Exposed, Infectious, Recovered
- Develop a visualized dynamic model.



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Image Sources

- <https://www.gettyimages.com/detail/photo/coronavirus-covid-19-outbreak-concept-background-royalty-free-image/1215064255>
- <https://www.gettyimages.com/detail/photo/coronavirus-covid-19-outbreak-concept-background-royalty-free-image/1215064464?adppopup=true>
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Thank you

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