Communication Within Science

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Projects

- Social Media Assessments for NSF Expeditions and NSF Prepare
- Data Collection 4 Virginia Universities + Cities: JMU, UVA, GMU, and V-Tech; Harrisburg, Charlottesville Blacksburg, Richmond
- Researcher Match for Science Before the Storm Podcast

Social Media Assessments for NSF Expeditions and NSF PREPARE

What they are:

- **Expeditions:** Multidisciplinary team which works together to capture the complexities underlying infectious diseases and revolutionize realtime epidemiology.
- PREPARE: A virtual organization to foster increased discussion and collaboration among CISE (Computer and Information Science and Engineering) researchers.

Goals:

- **Expeditions:** Inform people about the developments happening in biocomplexity program
- PREPARE: To create a virtual organization in which spreads information about what the program is doing. Get people to know that we're doing research and projects.
- **Education not Entertainment**

Target Audiences:

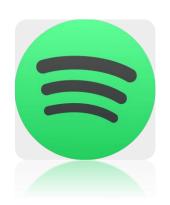
- **Primary: Researchers**
 - Tend to skew older
- **Secondary:** Policy Makers
- **Tertiary:** Anyone else who we happen to reach

Information collected from 23 University Institutions & National Research **Institutes**

- **Twitter**
- YouTube
- Spotify







Demographics and Usage

- Twitter: 187 million daily active users | 3.53 minutes per session
- YouTube: 2 billion active monthly users | 41.9 minutes per day Facebook: 2.8 billion active monthly users | 38 minutes per day
- Instagram: 1 billion active monthly users | 29 minutes per day
- Spotify: 345 million users in 2020

Insights

- Date Created Matters the Most: Followers and likes are often steadily accumulated over the years
- Social Engagement is low: Likely due to audiences habits
- Prestige does not always matter: Prestige did not matter on Twitter or YouTube, while making a slight impact in Facebook.
- Content Quality Matters, but may not produce followers or likes

Data Collection from Universities and Cities in Virginia



University Communication:

Updates and COVID19 regulation were given to students through email and typically through the school's COVID19 website

Cities

City Councils issued ordinances to reduce the spread of Covid, but this information was difficult to obtain and required contacting City Council

Researcher Match



<u>Tags</u>

- **Covid Prevention**
- **Contact Tracing**
- **Internet Usage**
- **Wireless Networks**
- **Populations**
- **Data/Graphs/Tools/Models**
- **Healthcare/Hospitals**
- PPE
- **Archive/ Knowledge Base**
- **Web Applications**

- Healthcare/Hospitals
- Archive/ Knowledge Base
- Mobile Applications
- Minorities/Low Income/Vulnerable Invention
 - Regulation
 - Transportation
 - **Mental Health**
 - **Privacy**
 - Remote-Work In-Person Work



126. This urgent research will swiftly address how the COVID-19 has made the digital divide intenable for people living in communities already marginalized by systemic disparities, by As many services shift to online delivery, suddenly the most vulnerable members of society are expected to own and master the most complex human-built artifacts: hardware, software, and the

and designing customized tools and processes to support a community-based digital ambassador Minorities/Low Income (old?) (Vulnerable people

n this project, we propose to develop an integrated framework for modeling, prediction, and cos

he epidemic. Predicting the speed and severity of infectious diseases like COVID-19 and allocating nedical resources appropriately is central to dealing with epidemics. Epidemics like COVID-19 not The project will provide a predictive understanding of the spread of the virus by developing machine

Predicting at state/county/city-level rather than country-level as finer granularity is essential in such granularity travel is a significant reason for the spread and needs to be accounted for. (iv) Available data needs to be corrected by finding the number of underlying unreported cases that are not observed and yet influence the epidemic dynamics

Data/Graphs/Tools/Models

Researcher Matches:

esearcher 1	Researcher 2	Why
		89: The goal of (1) is to understand SARS Cov-2 by investigating the evolutionary origins of the virus and its genetic variation within host species in order to determine how molecular variation or control of the virus and its genetic variation within host species in order to determine how molecular variation or control of the virus and its genetic variation within host species in order to determine how molecular variation or control of the virus and its genetic variation within host species in order to determine how molecular variation or control of the virus and its genetic variation within host species in order to determine how molecular variation or control of the virus and its genetic variation within host species in order to determine how molecular variation or control of the virus and its genetic variation or control of the virus and its genetic variation or control of the virus and its genetic variation or control of the virus and its genetic variation or control of the virus and its genetic variation or control of the virus and its genetic variation or control of the virus and variation or control of variati
	1	- Both projects investigate the evolution and mutation of the Virus and study it's genetic variation and utilize this information to predict the emergence and spread of new strains
		"91: In project (2) Software is meant to use CT scans and X-ray measurements to produce a high-quality chest CT image and analyze features of COVID19 so that it identifies the virus in real time
	2	91 Both projects utilize deep learning to analyze CT images as a means to test Covid19 in an efficient and accurate manner. It would be interesting to see how each team went about doing this."
		50: The goal of project (3) is to develop a data archive for multimodal (demographic, information, clinical-outcome reports, imaging scans) and longitudinal data related to COVID19 and to provi
	3	50 Both projects with to create an open data archive for researchers to utilize. It would be interesting to see how they went about it, what problems they faced, etc.
		80: Project (4) facilitates widespread testing for COVID-19 while using fewer tests through the use of Pool Testing. In this project, effective group-testing schemes that minimize the total number
	4	80 Both projects utilize pool testing. It would be interesting to talk about pool testing and how it worked throughout the Covid19 pandemic
		"Project (5) uses the unique data from Hawaii to provide a predictive understanding of the virus through modeling of spread and mitigation effects, focusing on a critical gap in understanding values."
		Project (47) saught to address how to minimize the spread of the epidemic while also minimizing deleterious effects and maximizing the availability of critical health resources by devising a better
	5	47 Project 5 has data about how quaranting occured and project 47 seeks to adresss alternatives to this, so it would be interesting for the researchers to discuss lockdowns - how lockdowns happe
		Project (6) aims to enable discovery of disease transmission patterns based on analysis of genomic data, provide accurate identification of transmission clusters, and enable de-
		Project (85) develops novel machine learning methods that can simultaneously model and predict the COVID-19 spread, detect and monitor risk factors, and evaluate effectiven
	6	85 Can talk about transmission patterns and Covid19 spread that was detected and how they used deep learning methods.
		Project 7: The goal of this project is to develop a data archive for multimodal information. The paired researcher is working on a project which aims to develope and demonstrate techniques the
		Project 77: - The impacts of COVID-19 in rural areas are expected to be devastating. This project delivers research, scientific, and COVID-19 planning to three rural communities. The deliverable
	7	77 Topic: Geospatial data - how to acquire it, what they found from developing this. How it was applied to the rural areas.
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Example:

- Project 45: This project aims to understand the relationships between consumer panic-buying, reports on infected cases, and local population demographics in a large and densely populated urban epicenter of the virus. Fundamental understanding of community factors and the role of reports on consumer behavior in emergencies will enable effective and timely decisions on resource planning and disbursement, preventing unexpected shortages of critical supplies in large and diverse urban centers.
- <u>Project 55:</u> This study will collect critical and time-sensitive information to evaluate the extent to which people modify their shopping behavior during the pandemic and the lasting effects of technological adoption during recovery and beyond. It will reveal important trends in consumer behaviors and gaps in access that can aid planners in preparation for ongoing recovery and future emergencies. Findings will promote the health and well-being of the community by identifying opportunities to meet household needs while minimizing risk.
- Topic: Consumer purchasing habits and how they shifted during the pandemic in terms of panic-buying, and ecommerce. How it effected the supply of certain goods and what the overlap is between panic-buying and ecommerce is.

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