CHOT AT PENN STATE
NEWSLETTER
JUNE 2017

Penn State National Science Foundation Center for Health Organization Transformation (Penn State CHOT)
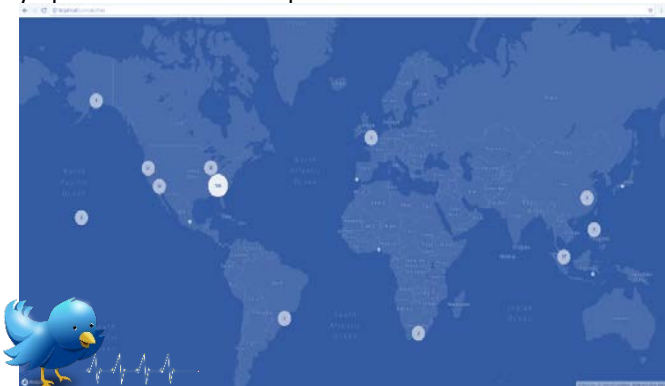*An Industry-University Cooperative Research Center*

SIEMENS   HIGHMARK.   AT&T   PennState Health Milton S. Hershey Medical Center   PENNSYLVANIA OFFICE OF RURAL HEALTH
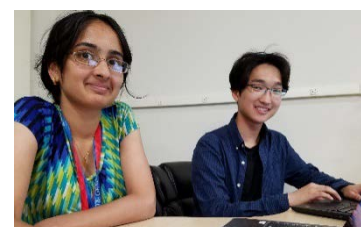
BIG DATA MINING & POPULATION HEALTH

Think of all the data shared on social media everyday. Think past the selfies and food shots and think purely of the data. With over 500 million tweets a day, there is an immense amount of social media data. Now, think about possible uses of that extensive data, especially in the area of population health. The innovative thinking of some of our undergrad research assistants have made it possible to capture this data in real time and translate it into an interactive map that can capture targeted health information from publicly available data all over the world to predict health events such as symptoms that indicate a possible outbreak of influenza.

Vishnupriya Bakthisaran and Chonghan Lee, undergraduate computer science majors, are the students behind this project under the mentorship of Sunghoon Lim. Vishnu is gathering the real-time tweets with geolocation and storing it in GeoJSON (a format for encoding a variety of geographic data structures) so that the information can then be visually displayed in Basemap. Chonghan is working on visualizing tweet data on a world map in real time. His job is to make user interfaces to navigate through the map to let them see real time tweets. By combining open sources together to make efficient map visualizations, it will help us see similar characteristics by region. For example, there can be a natural health disaster in a region or disease spreading.

"By visualizing network data, we can see what is happening in our world" says Chonghan. The goal is to have this application out for use to the general public by the end of the summer.

CHOT INDUSTRY COLLABORATION

CHOT welcomed delegates this month from one of our valued CHOT industry members. Representatives from Siemens visited CHOT to explore potential projects focused on patient centered care. The site visit included tours and demos at the D.A.T.A. lab at University Park and a road trip to collaborate with Hershey Medical Center doctors and Penn State College of Medicine faculty.

CHOT also hosted a talk on "Curing Healthcare Data Problems" by Dr. Piers Nash, MBA, PhD featuring information on the National Cancer Institute's Genomic Data Commons and the challenges associated with storing ever-growing amounts of data.

NEW DIGITAL MEDIA SPECIALIST COMMUNICATING RESEARCH & RESULTS

Research is more impactful when the results are clearly communicated to others. CHOT is expanding its staff to do just that.

Jillian Ford, a native Washingtonian, is a junior Broadcast Journalism major at Penn State. Last semester Jillian studied in Buenos Aires, Argentina to focus on her Latin American studies minor. After her semester in South America, she now is back in State College interning with CHOT as part of the outreach team. Jillian looks forward to help share innovating and transformative CHOT projects with the world.

CHOT FACTS: DID YOU KNOW?

PENN STATE CHOT IMPACT

100 More than 100 research projects have been completed.

150 More than 150 students have been mentored and supported; many are now working for industry members.

500 Bi-annual CHOT meetings have drawn more than 500 participants.

The mission of the Penn State National Science Foundation Center for Health Organization Transformation (CHOT) is to advance transformation in health systems through applied transdisciplinary research.

CHOT   PennState College of Engineering

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CHOT.PSU.EDU