



Community Learning Data Driven Discovery Vision

Existing data flows at the local level, public and administrative records, geospatial data, social media, surveys, as well as other federal, state, and local databases, are ubiquitous in our everyday life. These data, when integrated, can tell the story of a community. We have been developing and piloting a **Community Learning Data Driven Discovery (CLD3)** process that liberates, integrates and makes these data available to **government leaders and researchers** to build an equitable and sustainable social transformation within and across communities that addresses their most pressing needs.

Combining unprecedented amounts of data makes possible unexpected discoveries, innovations, and advancements in quality of life. These capabilities have created an asymmetry of power between the commercial and public sectors. The commercial sector regularly uses “big data” to understand customers and develop new products and services, but the use of this newfound power to **advance the public good** lags behind. The disparities in healthcare, education, economic, and criminal justice across America have reached a tipping point and require a new approach to making policy decisions, deciding on interventions, and evaluating their consequences, one driven by data.

Virginia Tech and Iowa State University are partnering to develop an approach for massive deployment of the CLD3 process to our 3100 local communities (counties) throughout the U.S., providing government leaders with the tools to tackle the issues confronting their communities, “What works, for whom, and in what context?” Just as learning to read to read to learn; CLD3 will help a community learn to repurpose and use their data while driving data learning to improve their quality-of-life.

The CLD3 process starts with asking local leaders what their questions are but cannot currently answer; identifying data sources that can provide insights; wrangling the data (profiling, cleaning, transforming, linking); using statistical and geospatial learning along with the communities’ collective knowledge to inform policy decisions; and developing, deploying, and evaluating intervention strategies based on scientifically based principles. CLD3 is a continuous, sustainable and controlled feedback loop.

The CLD3 deployment will be through the Land Grant University, which excels in agriculture, engineering, science, social science, and statistics. This **research is translated to application** through the Agriculture Experimental Stations and Cooperative Extension Service (CES) network, located in every city and county and operated in partnership with federal, state, and local governments. CES is a seasoned nationwide network with a track record of successes focused on addressing societal issues by **disseminating university research findings that provide citizens with the knowledge and skills necessary to solve community problems**. CES agents will work directly with local government leaders and stakeholders to address their issues. They will identify and work with university data scientists and researchers to create data learning communities. Together we will evolve the workforce through training and embedding data scientists in local settings to enable the full potential of data driven discovery for communities.

CLD3 will reposition our public institutions to focus on communities’ quality-of-life and sustainability through data driven problem discovery and solutions. Our goal is to create a national movement with the momentum to deploy CLD3 to all our communities across Virginia and Iowa and then the country. The result will be a new **foundation for democracy** and a deeper partnership between our Public and Land Grant Universities, their communities, and state and federal government.

Sallie Keller
Social and Decision Analytics Laboratory
Biocomplexity Institute of Virginia Tech
Sallie41@vt.edu



IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

March 2017