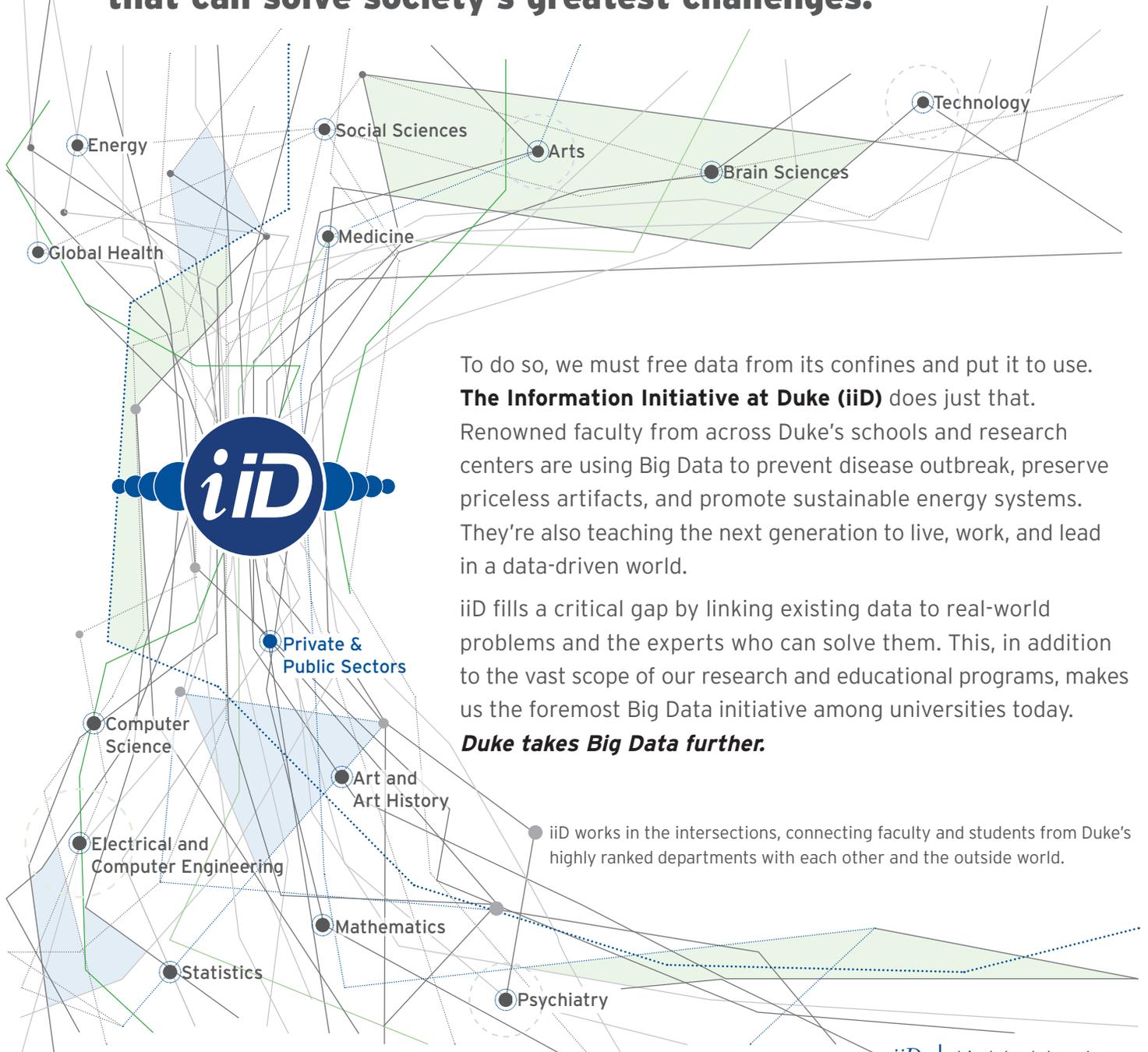


The Information Initiative at Duke

Each day, we create quintillions of bytes of data on everything from our vital signs to how our homes consume power. This galaxy of information contains clues that can solve society's greatest challenges.



To do so, we must free data from its confines and put it to use.

The Information Initiative at Duke (iiD) does just that.

Renowned faculty from across Duke's schools and research centers are using Big Data to prevent disease outbreak, preserve priceless artifacts, and promote sustainable energy systems. They're also teaching the next generation to live, work, and lead in a data-driven world.

iiD fills a critical gap by linking existing data to real-world problems and the experts who can solve them. This, in addition to the vast scope of our research and educational programs, makes us the foremost Big Data initiative among universities today.

Duke takes Big Data further.

iiD works in the intersections, connecting faculty and students from Duke's highly ranked departments with each other and the outside world.

BIG DATA IS A **BIG DEAL AT DUKE**

50+

FACULTY MEMBERS ARE

- transforming research and education by infusing data-based expertise into projects spanning the humanities, social sciences, and life sciences.
- joining forces with firms, the public sector, and leading Duke centers—the **Duke Energy Initiative**, **Duke Medicine**, and the **Duke Social Science Research Institute**, among others—to tackle global issues and bring groundbreaking technology to life.
- providing students of all levels and of every discipline a deep and broad understanding of data science and its boundless applications.

1,482

STUDENTS ARE

- collaborating with faculty, outside experts, and other students to inform policies that combat unemployment and wage stagnation, increase public access to government information, and create other outcomes that make a difference.
- gaining amazing experience by helping real clients develop solutions to data challenges while honing their problem-solving, communication, and other career skills.
- taking eye-opening courses and engaging in deep-dive **Data Expeditions**, **Data+** research, **Bass Connections** project teams, and internships.

MORE THAN **85** PROJECTS ARE

- changing the world through Big Data.

The stories on the right are just two examples.

REVOLUTIONIZING HEALTH CARE

iiD is bringing together Duke's excellence in medicine with advanced mathematics and statistics to improve the health of people across the world.

Electrical and computer engineering professor **Lawrence Carin** is working with **Geoffrey Ginsburg, M.D.**, professor of medicine, biomedical engineering, and pathology, on a tool that can scan a patient's bloodwork for genetic information and quickly determine the cause of their illness. This means patients can be treated earlier and more accurately, speeding up their recovery and even preventing pandemic flu and other serious disease outbreaks. Carin is also investigating how patient-specific data can improve personalized treatment, predict the spread of infection within a population, and detect emerging diseases, including potential bioterrorism threats.



MEASURING SOLAR'S TRUE POWER

Programs like Data+ give Duke students the chance to get “under the hood” and use data science to solve real problems.

For instance, solar energy is gaining traction in the United States, but by how much? One group of iiD students has created a sophisticated dataset that can train machines to identify rooftop solar panels in satellite images. In preliminary results, a machine-learning algorithm they developed was able to identify rooftop panels with 90 percent accuracy. These data-powered tools could one day provide accurate estimates of the country's—and world's—solar capacity. This would help energy companies, urban planners, and policymakers make better-informed decisions that will take us closer to affordable, accessible clean energy.

Join us in unlocking the potential of Big Data.