ABOUT THE CLUSTER

This cluster will focus on the integration of data science and machine learning with the deep domain expertise at Johns Hopkins to develop scalable and multimodal AI systems that drive discovery, decision-making, and prediction in science, engineering, medicine, and public health. The driving vision is towards AI systems that collaborate with humans to understand and improve the human condition. The design of these systems requires interpretability for experts and integrates domain knowledge with data-driven AI. These systems must include human-AI interactions and collaborations, as well as conditioning on many data types (including images, videos, audio recordings, natural language text, electronic medical records, genomics). Recognizing that these data types can often lead to the creation of algorithms that exacerbate racial and other biases, these systems must also ensure equity, fairness, accountability and transparency, which are critical to future discoveries and for guiding decisions across science, engineering, public health, and medicine.

Cluster scholar backgrounds may include:

- Integration of domain knowledge and data-driven methods
- Expertise in working/researching across disciplines including computer science, engineering, natural sciences, public health, and medicine
- Success in building AI systems that can reason and infer from heterogeneous data streams with the goals of decision making and prediction

Team members in this cluster will work within JHU’s unique collaborative culture and receive additional administrative and financial support to ensure their interdisciplinary research is truly impactful and world-changing.