

HIT Sandbox Principal Investigators

Kimani Toussaint

Leads the optical wearables module. Among other positions, he is a professor in the school of engineering and director of the Center for Digital Health. He is an optics researcher whose work in digital health focuses on leveraging optical polarization to develop a pulse oximeter that works well on all skin tones.

Peipei Zhou

Leads the module for AI-enabled embedded computing platforms. She is an assistant professor in the school of engineering. Her research interests include reconfigurable computing, chiplet-based systems, and artificial intelligence.

Benjamin Kimia

Leads the AI monitoring through computer vision and wearable computing module. He is a professor in the school of engineering with research expertise that includes image understanding, robotics, and imaging for minimally invasive surgery. He has been working to build an indoor navigation device for the blind.

Haneesh Kesari

Leads kinematics, inertial, and spatial sensing module. He is an associate professor in the school of engineering with a research program that focuses on analytical and experimental mechanics as well as structural biomaterials. He currently leads an effort to develop a soft flexible headband to measure head kinematics during impact and fall events.

Louise Manfredi

Leads the design research integration framework. She is an associate professor of the practice in the school of engineering and director of the Brown Design Workshop. While her doctorate is in mechanical engineering, and a background in neuroengineering, her current research focus includes sustainable design engineering, sustainable product development, circular economy, and engineering education.