SMART HOSPITALS & AI-DRIVEN HEALTHCARE

CMU researchers are transforming healthcare by optimizing patient flow, scheduling and resource management, leading to more efficient and personalized care. Predictive models improve treatment planning and clinical decision-making, reducing inefficiencies and improving patient outcomes, while new approaches to storing, integrating and protecting healthcare data ensure patient privacy.

REGENERATIVE & BIOENGINEERED THERAPIES

CMU research collaborations are driving clinical translation and reshaping regenerative medicine and personalized healthcare. Breakthroughs in bioprinting, AI-driven regenerative medicine and synthetic biology are proof — they are transforming transplantation and tissue repair, developing bioengineered organs and implantable tissues and using AI to accelerate stem cell therapies.

NEUROTECHNOLOGY & BRAIN HEALTH

Advances in brain-computer interfaces, bioelectric implants and AI-driven neuroscience are unlocking new treatments for neurological disorders, motor impairments and cognitive health. CMU researchers are developing next-generation neural interfaces, wearable neuroprosthetics and precision bioelectronic therapies to restore movement, enhance cognition and treat conditions like Parkinson's disease and depression.

PUBLIC HEALTH & GLOBAL HEALTH SECURITY

At CMU, the Delphi Group builds models that can forecast outbreaks while AI-driven genomic tools improve hospital disease detection. Researchers at the CASOS center combat misinformation through social media analysis, and innovations like digital vaccines boost health literacy. Our leadership in ethical AI ensures secure, transparent data to build public trust.

MEDICAL ROBOTICS & AUTONOMOUS SYSTEMS

CMU's work in robotics bridges foundational AI, mechanical design, and human-machine interaction to support surgery, rehabilitation, diagnostics and healthcare logistics. This same spirit of autonomy and precision drives our work leveraging AI, automation and high-throughput experimentation to accelerate drug discovery, optimize molecular design and revolutionize pharmaceutical development.

CONNECTED HEALTH & DIGITAL WELL-BEING

Innovations like battery-free health monitors, electronic tattoos and AI-driven dietary tracking bridge the gap between patients and providers, enhancing remote diagnostics, chronic disease management and behavioral health tracking. CMU researchers are developing wearables for real-time health monitoring, AI-powered telehealth tools and privacy-preserving smart sensing technologies.

CMU HEALTH-RELATED STARTUPS

Abridge
Accel Diagnostics
Aware.ai
Beyond Lucid Technologies
BioBind Inc.
BioHybrid Solutions
Biombyx
Enabyl A.I.
Enzium
Equa Health
Galen Health
Heart I/O
Ocean Genomics
Organoid Therapeutics
Qualaris Healthcare Solutions
QuantMD
Root Health Coach
Semantic MD
Telling.ai
TreatSpace
Vera Therapeutics

PRECISION & PERSONALIZED MEDICINE

Researchers at CMU are using AI to drive early disease detection, targeted therapies and faster drug discovery. Using machine learning, they are finding ways to identify disease biomarkers and enable personalized treatments faster than ever before.

◄ Discover how research at CMU is transforming the modern world