

MIT Enterprise Management Hackathon 2024

New business model opportunities for AI and Gen AI to *aid healthcare-professionals close the patient communication and education gap in under-resourced communities*

Situation today:

In recent years, the healthcare and wellness industry has undergone a transformative paradigm shift, propelled by the relentless march of digitalization and the groundbreaking applications of artificial intelligence (AI). As the world becomes increasingly interconnected and data-driven, these technological advancements are reshaping the landscape of healthcare delivery, diagnostics, patient education/communication and patient outcomes. The fusion of digital technologies with healthcare, often referred to as "digital health," holds the promise of enhancing efficiency, accessibility, and the overall quality of care. Artificial intelligence, a cornerstone of this digital revolution, is emerging as a powerful force capable of revolutionizing the diagnosis and treatment of diseases, personalizing patient care, and optimizing healthcare operations. In addition, we see a growing trend that healthcare services are provided in a retail context (e.g. pharmacies or planned healthcare service stations in retail stores in Germany).

The advent of AI in healthcare brings forth a myriad of opportunities and challenges. From predictive analytics and machine learning algorithms that can sift through vast datasets to identify patterns and predict health outcomes, to natural language processing systems that facilitate more seamless communication between patients and healthcare providers, AI is ushering in a new era of healthcare innovation addressing topics like the constant shortage of qualified nurses and the permanent work overload of the healthcare professionals. Moreover, the integration of wearable devices, smart sensors, and Internet of Things (IoT) technologies has the potential to allow for continuous monitoring of health parameters, enabling early detection of potential health issues, proactive interventions, and higher quality of patient/provider communications, to facilitate quality care and healthy living.

However, this digital transformation is not without its complexities. Ethical considerations, data privacy concerns, and the need for robust cybersecurity measures are critical elements that must be addressed to ensure the responsible and secure implementation of AI in healthcare. Additionally, the industry faces challenges related to interoperability of digital health systems, regulatory frameworks, and the equitable access to technology-driven healthcare solutions across diverse populations.

In this dynamic landscape, stakeholders in the healthcare and wellness sector are navigating the intricate intersection of technology and human-centric care. The digitalization and application of AI are reshaping traditional healthcare models, fostering a more patient-centric approach, and holding the potential to unlock unprecedented insights into disease prevention and treatment. As the healthcare industry evolves, the judicious integration of these technologies promises a future where healthcare is not only more efficient and effective but also more personalized and accessible for individuals worldwide.

Business Challenge:

Develop an AI/Gen AI driven business model to *aid healthcare professionals close the communication and patient education gap in under-resourced communities to aid in prevention, education, and/or quality care for a healthy life.*

Schedule:

Friday (3/15) through Monday (3/18) 2 pm

Day 1 (3/15)

Hear from leading business professionals, academics and medical informatics practitioners about, potential applications of AI/Gen AI in the healthcare domain, service needs to bridge the communication and patient education gap in underprivileged communities, and voice of the customer from community organizers (organizers in community centers, support groups, and/or neighborhood associations),

Potential panels:

- Panel 1: AI/Gen AI/medical informatics
- Panel 2: Healthcare professionals – use cases (doctors, nurses, EMS, pharmacists)
- Panel 3: Decision Stakeholders – hospital administrators (CIO/CTO), CIO/CTO of insurance companies (Medicare and Medicaid), veterans affairs CIO
- Panel 4: Voice of the customer from community organizers – organizers in community centers, support groups and/or neighborhood associations

Afternoon:

Students get trained in “design thinking and business model generation methods” by global experts from SAP SE, Germany.

Day 2 and Day 3 (3/16 & 3/17)

Student teams work on the challenge separately. They get support from the subject matter experts either onsite or online.

Day 4 (3/18 – 2 pm)

Presentation in front of the judges (faculty members, industry representatives)

Literature

<https://www.nature.com/articles/s43856-023-00370-1>