A NOVEL MACHINE LEARNING TECHNOLOGY FOR HEART FAILURE READMISSION REDUCTION

CHALLENGE
How might we identify clinical perceptions and overall value of a machine learning algorithm built to predict heart failure readmissions?

ROLE
- Co-define project methodology
- Plan data collection
- Strategize appropriate methods of dissemination to clients
- Conduct 25+ interviews and targeted observations with key stakeholders, frontline inpatient and outpatient clinicians
- Analyze interview transcripts
- Derive key themes
- Develop personas, empathy maps and workflows
- Present findings through meetings and participatory client workshops

RESEARCH METHODOLOGY
- Exploratory conversations with key stakeholders and hospital administration
- In-depth qualitative interviews with range of frontline clinical staff in inpatient and outpatient settings
- Thematic analysis of interview transcripts
- Develop workflows, personas and empathy maps to define recommended end user and context
- Facilitate project team alignment on mutually interesting areas for further exploration

KEY INSIGHTS
- Information should be consistently accurate and that any display must be digestible efficiently, intuitively and quickly (i.e., within <5 seconds)
- Outputs of the risk prediction tool must match their clinical intuition, experience and interactions with the patient
- Role-specific and actionable next steps based on the system output would provide novel value to daily work

IMPACT
- Detailed report to client around current state of heart failure readmissions, user needs and perceptions of current risk prediction tools and recommendations for target users and next steps
- Internal working document for best practices for projects in emerging fields like AI and machine learning