
BENJAMIN KUMMER

<HTTPS://WWW.LINKEDIN.COM/IN/BENJAMIN-KUMMER-MD-1465405/>

Required Skills:

Proficiency with healthcare data and machine learning approaches, NLP preferred but not required.

Preferred Team Communications:

TBD

Data Sources:

Lab, diagnosis code, visit history, vital sign, demographics (including socio-demographics such as income level/education), discharge destination, physician orders, medications administered, clinical scores (e.g. NIH stroke scale, Glasgow coma scale), visit history, diagnosis/procedure codes).

Other Items:

Project has timezone flexibility. Mentors and students will determine a good time for virtual meeting

INTENSIVE CARE UNIT STATUS BOARD

Intensive care units harbor the hospital's sickest patients, and generate vast quantities of healthcare data. Clinicians caring for patients in an ICU must be aware at all times of the large amounts of data attached to their patients, as well as which data types are outstanding on their patients, and when such data becomes available. However, keeping track of such high quantities of data can result in cognitive overload and potentially negatively impact patient outcomes.

PROJECT OBJECTIVES

1. Aggregate relevant patient-level data
 2. Alert physicians/care providers that new clinical data is available
 3. Alert physicians/care providers whether such data is within a certain range
 4. Avoid cognitive overload / alert fatigue.
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SUCCESSFUL PROJECT

An "data monitor" application that

- Displays patients and results in a tabular format (patients = rows, results = columns)
 - Shows following results:
 - o Consultations
 - o Vital sign abnormalities
 - o Imaging results
 - o Physiology (e.g. sonology, EEG) results
 - o Lab results
 - o Orders
 - Fetches new data at very short time intervals
 - Alerts physicians that new data is available using intuitive, low-fatigue-inducing notifications
 - Alerts physicians whether specific data types (e.g. laboratory values, vital signs) are within a reference range
 - Shows whether tests are ordered/completed/interpreted
 - Allows the clinician to click through to the new data from the tabular view so as to be alerted of the result, review the data type resulted, and then review the detail of the data result
 - Function as a standalone application supported on a mobile device
 - Has a friendly and intelligent GUI.
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Intellectual Property: Students will own the IP from this project.