

S.1 Additional Dataset and Model Information

Table S1. Enumeration of features in the MIMIC-IV and MIMIC-IV ED datasets originating from Beth Israel Deaconess Medical Center. For values in between angled brackets (<...>), there is a single feature per value. Feature name, type, description, and usage per task is included.

Feature Name	Type	Description	Clinical Task Used
No. Days in the ED in the past <1/3/730/90/365> days	Integer	Number of days patient has visited the ED in the last <1/3/7/30/90/365>	ED Triage ED Discharge
No. Days as an Inpatient in the Hospital in the past <1/3/730/90/365> days	Integer	Number of days patient has been admitted to the hospital in the last <1/3/7/30/90/365>	ED Triage ED Discharge
No. Days in the ICU in the past <1/3/730/90/365> days	Integer	Number of days patient has been admitted to the ICU in the last <1/3/7/30/90/365>	ED Triage ED Discharge
Age	Float	Age of patient	ED Triage ED Discharge
Gender	Categorical	Male/Female	ED Triage ED Discharge
Race	Categorical	Race of patient	ED Triage ED Discharge
Arrival Transport	Categorical	Means of arrival for patient	ED Triage ED Discharge
Triage <Temperature/Heart Rate/Respiratory Rate/O2 Saturation/Systolic BP/Diastolic BP/Pain Level>	Continuous	Specified vital sign at triage	ED Triage ED Discharge
Average <Temperature/Heart Rate/Respiratory Rate/O2 Saturation/Systolic BP/Diastolic BP/Pain Level>	Continuous	Average of specified vital sign during ED visit	ED Discharge
Last <Temperature/Heart Rate/Respiratory Rate/O2 Saturation/Systolic BP/Diastolic BP/Pain Level>	Continuous	Last measurement of specified vital sign during ED visit	ED Discharge
Emergency Severity Index	Categorical	1 (most severe), 2, 3, 4, 5 (least severe)	ED Triage ED Discharge
Chief Complaint Present	Binary	Is the specified chief complaint present in this patient? (0: No/1: Yes)	ED Triage ED Discharge
Charleston Comorbidity Index	Binary	Is the specified comorbidity present? (0: No/1: Yes)	ED Triage ED Discharge
Elixhauser Comorbidity Index	Binary	Is the specified comorbidity present? (0: No/1: Yes)	ED Triage ED Discharge