Dashicurt: A Real-time ICU Dashboard Monitoring System using Artificial Intelligence

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Presentation flow

- Introduction
- Related Works
- Propose Method
- Result and Evaluation
- Conclusion
- Future Work

Source: https:adigaskell.org

INTRODUCTION

ICU

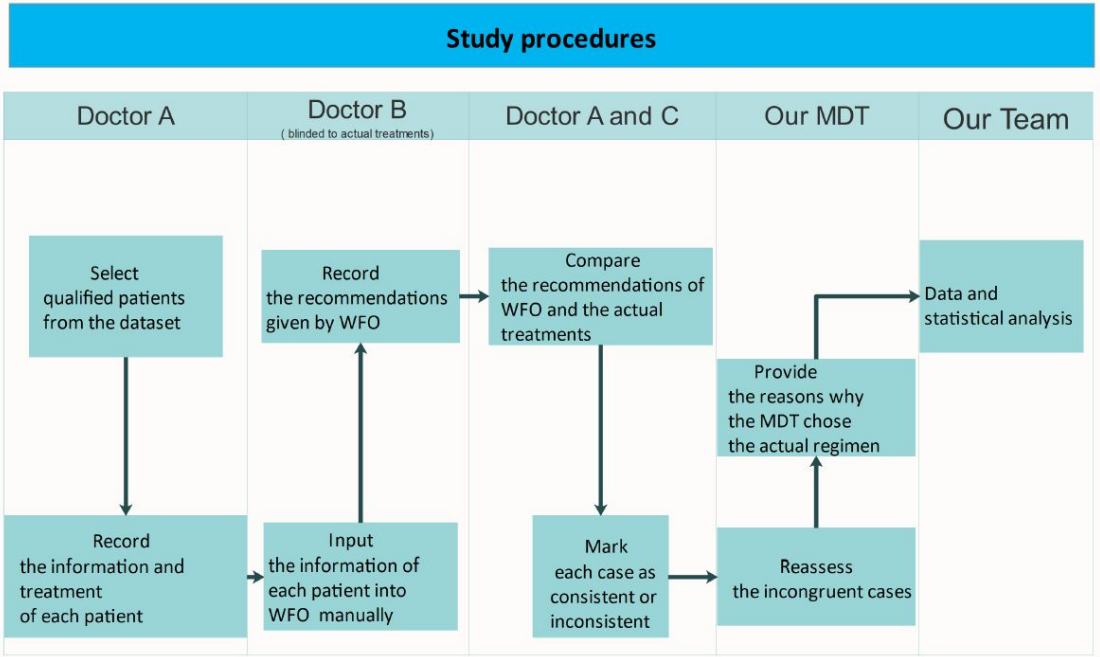
The Intensive Care Unit is a specialized and complex part of a hospital management system.

Related Work

Related Work

Related Work 1

The previous research has been developed an Using AI for Treatment Recommendations Patients with Lung Cancer

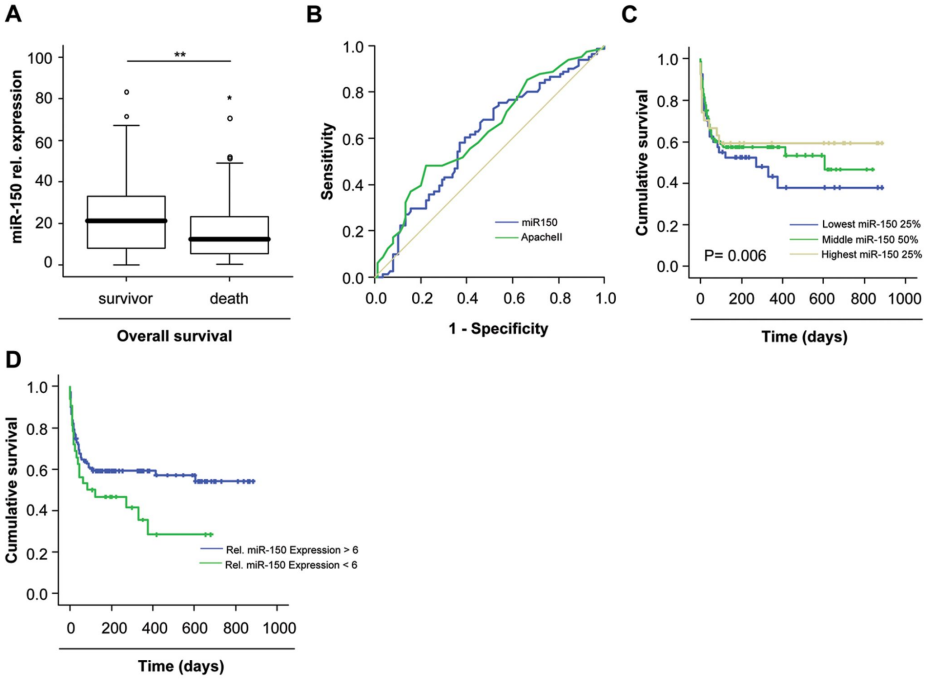


Reference: Liu, Chaoyuan, et al. "Using artificial intelligence (Watson for Oncology) for treatment recommendations amongst Chinese patients with lung cancer: feasibility study." *Journal of medical Internet research* 20.9 (2018): e11087.

Related Work

Related Work 2

The research Circulating MicroRNA-150 Serum Levels Predict Survival in Patients with Critical Illness and Sepsis



Reference: Földi, Mária, et al. "Obesity is a risk factor for developing critical condition in COVID-19 patients: a systematic review and meta-analysis." *Obesity Reviews* 21.10 (2020): e13095.

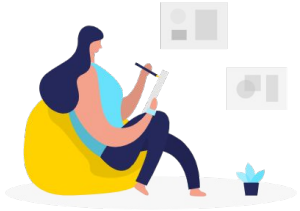
PROPOSED METHOD

Software Development Life Cycle

Requirement Analysis

Gathering system requirement

Design



Designing system architecture

Development

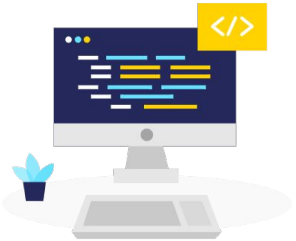
Implement system design

Proposed Method

Testing

Check the web according to function

Deployment



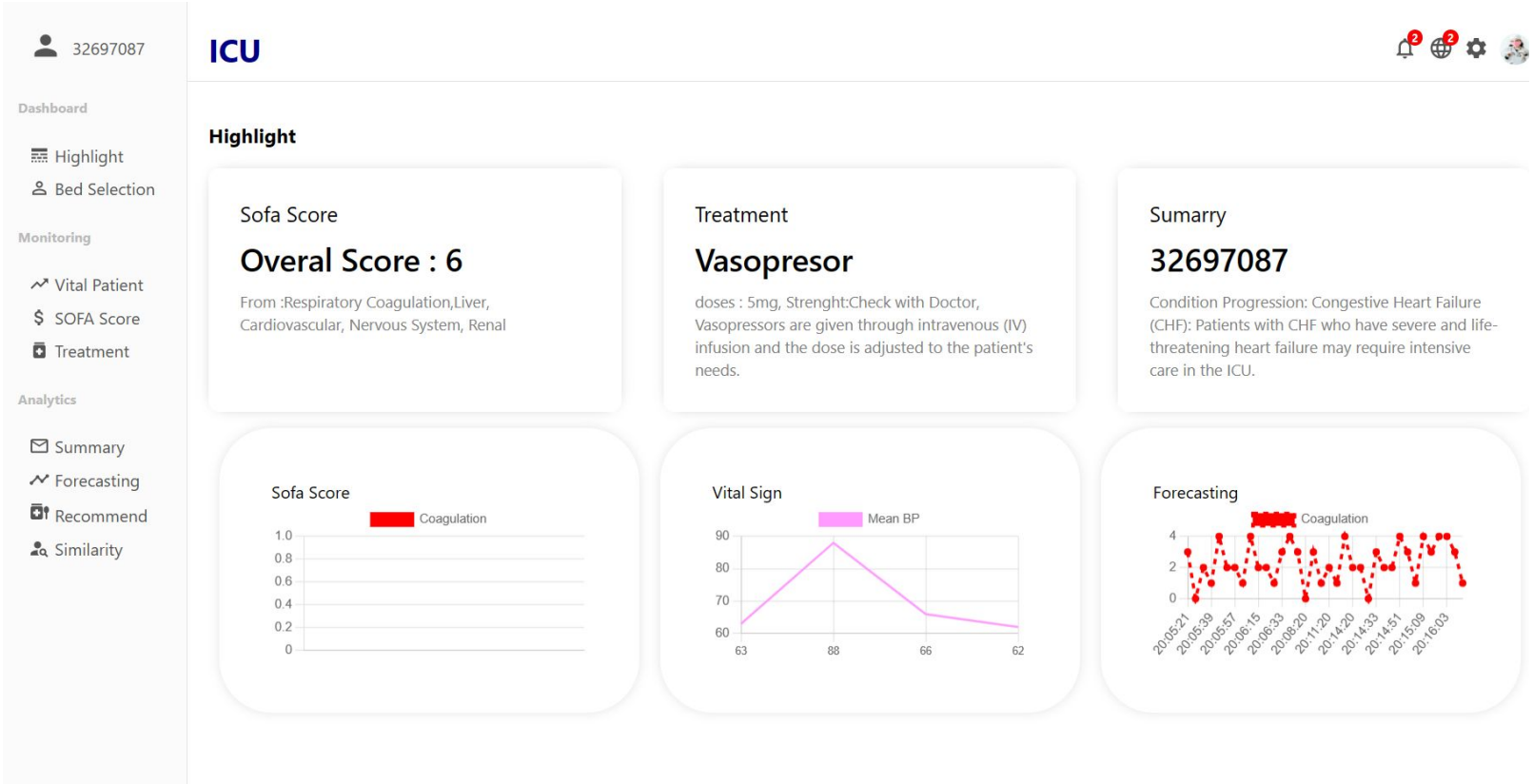
Prepare the production environment is ready

Maintenance

Monitor website performa, security, update and other

Result and Evaluation

Result and Evaluation



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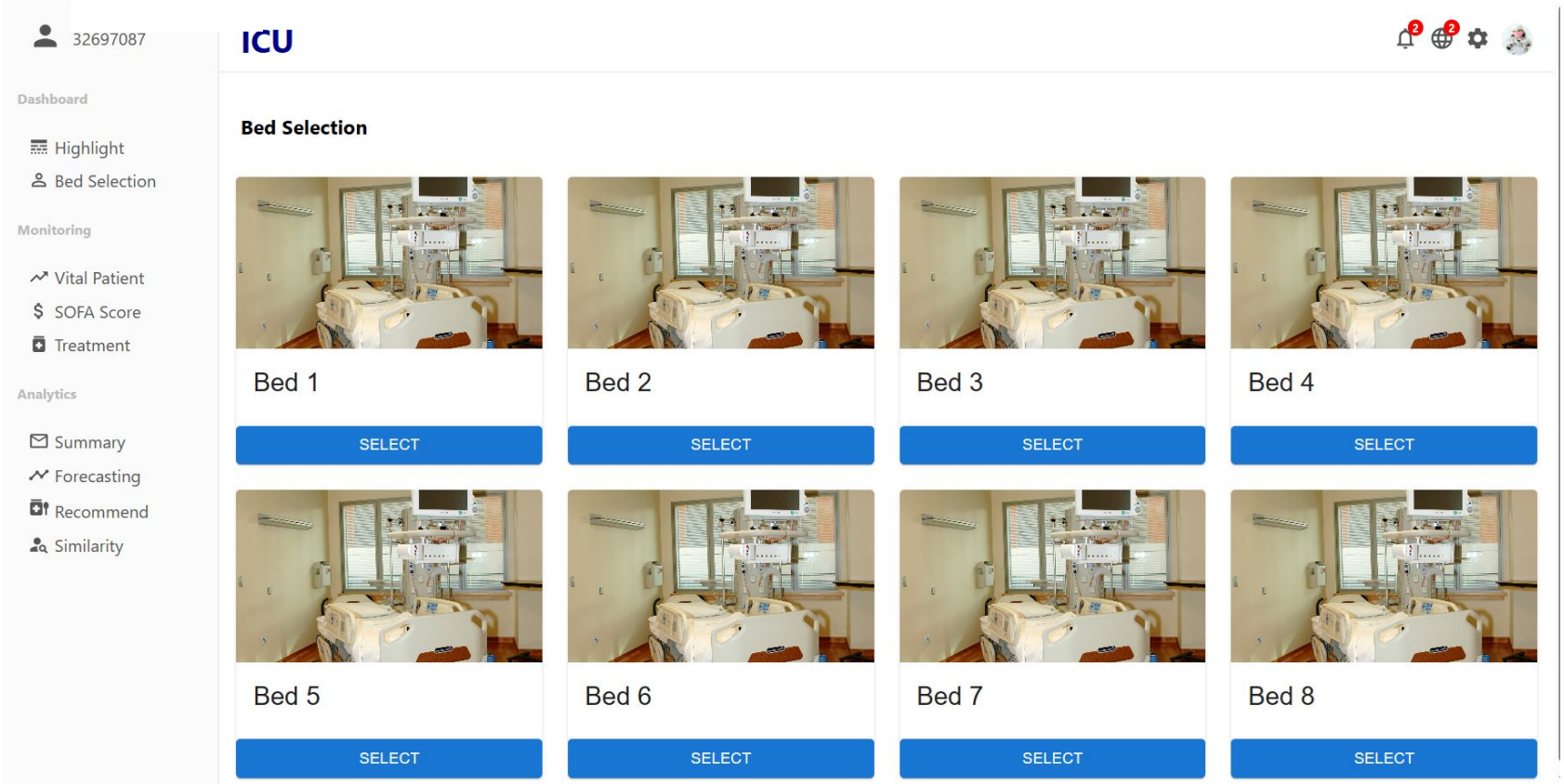

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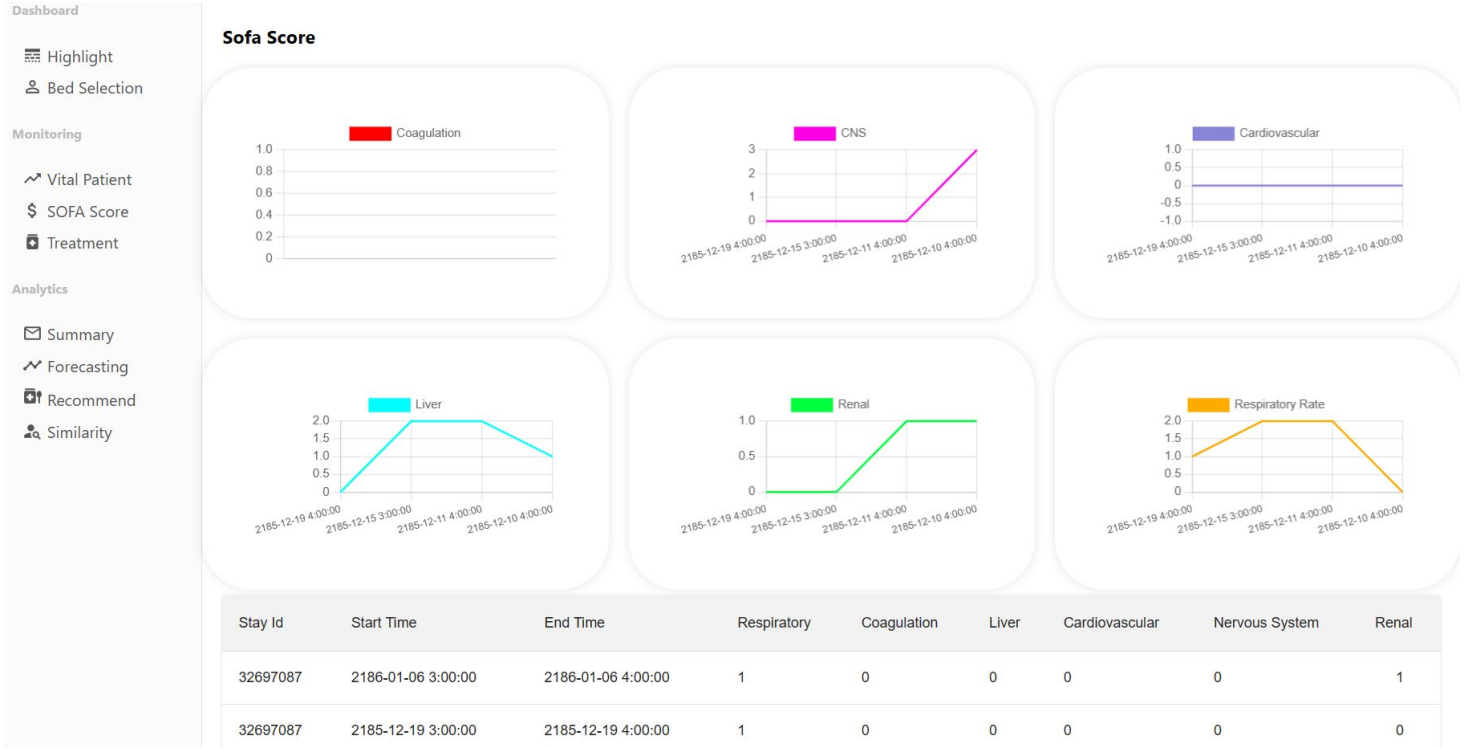
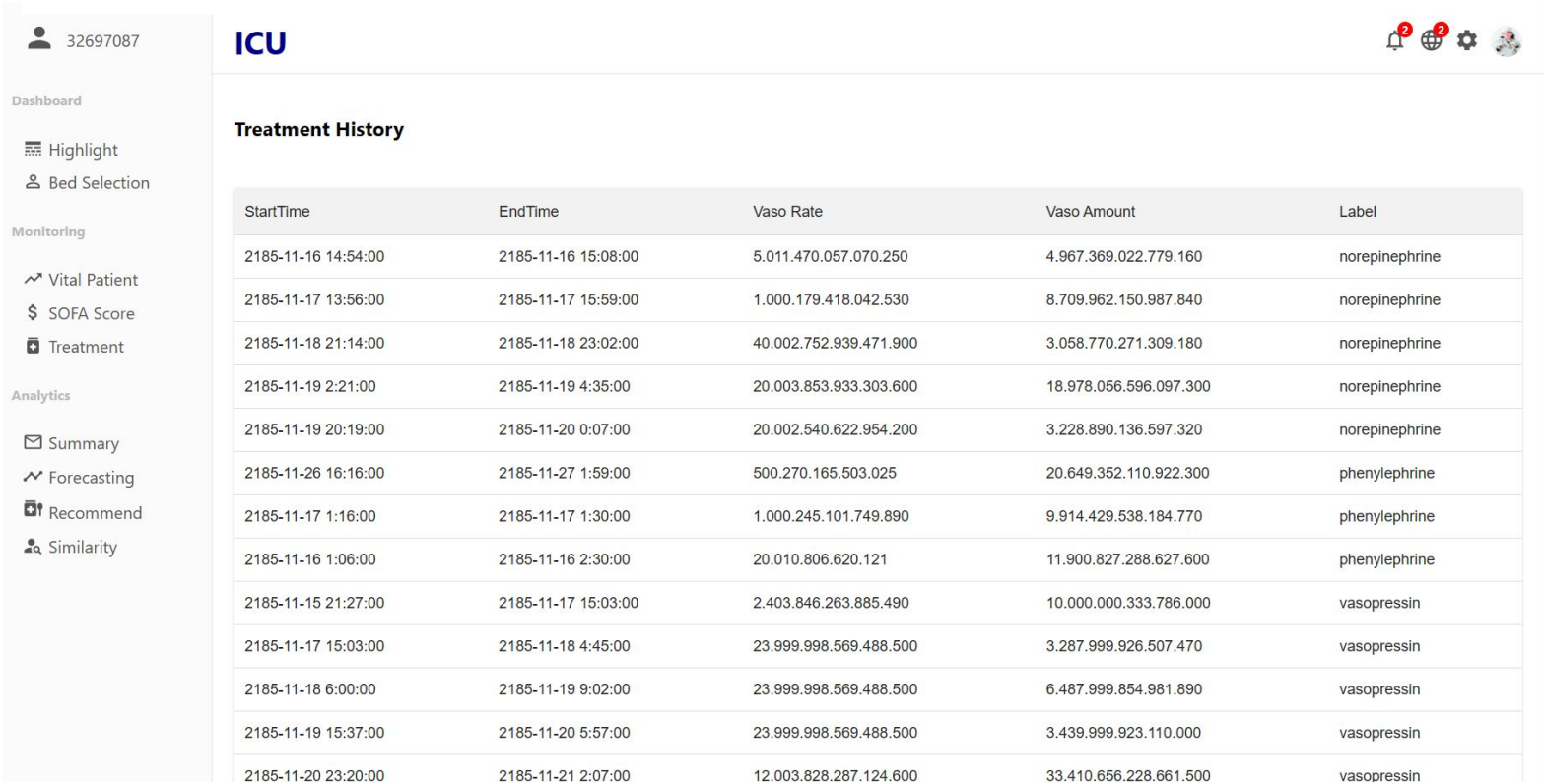


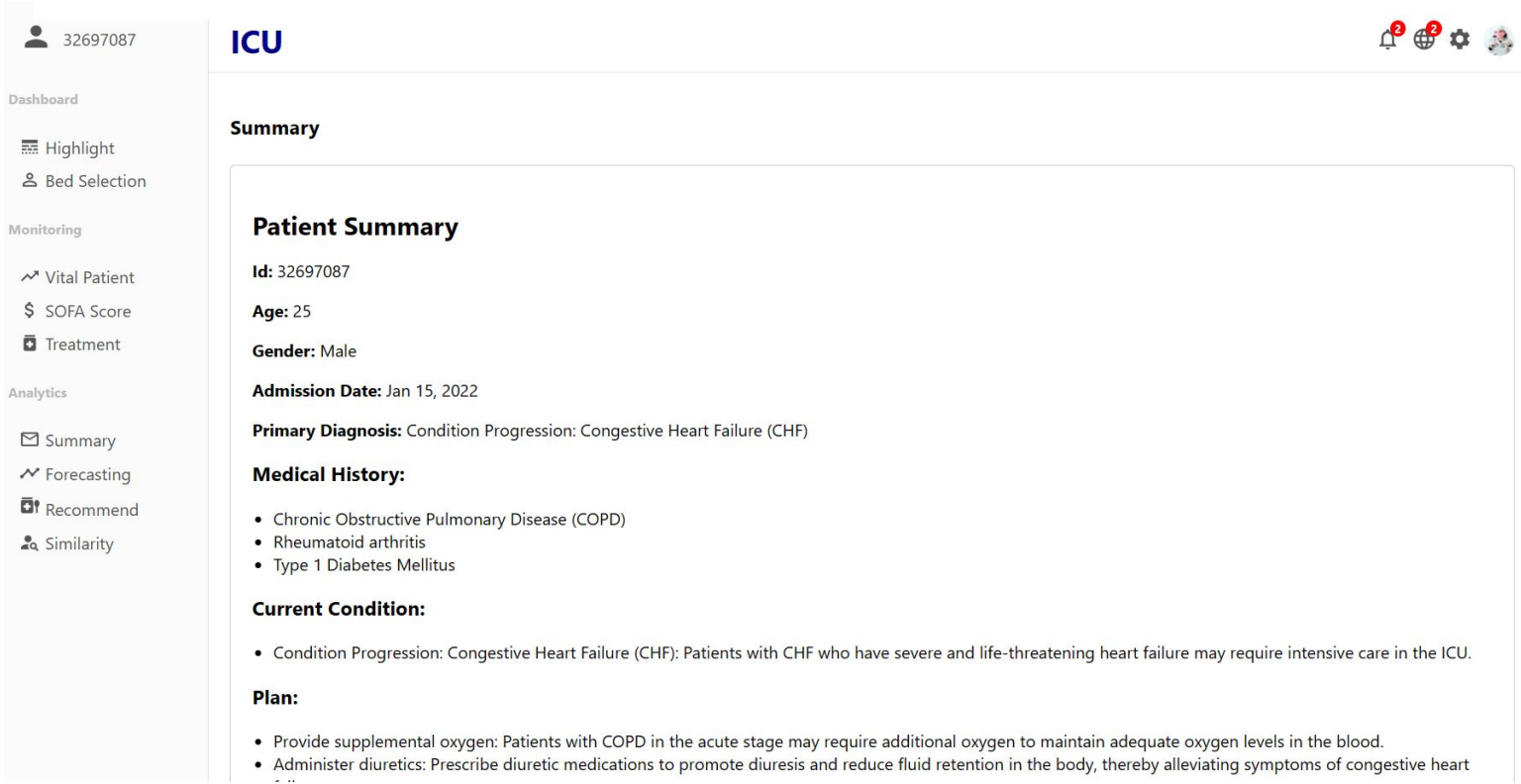
Stay Id	Start Time	End Time	Respiratory	Coagulation	Liver	Cardiovascular	Nervous System	Renal
32697087	2186-01-06 3:00:00	2186-01-06 4:00:00	1	0	0	0	0	1
32697087	2185-12-19 3:00:00	2185-12-19 4:00:00	1	0	0	0	0	0

Result and Evaluation



StartTime	EndTime	Vaso Rate	Vaso Amount	Label
2185-11-16 14:54:00	2185-11-16 15:08:00	5.011.470.057.070.250	4.967.369.022.779.160	norepinephrine
2185-11-17 13:56:00	2185-11-17 15:59:00	1.000.179.418.042.530	8.709.962.150.987.840	norepinephrine
2185-11-18 21:14:00	2185-11-18 23:02:00	40.002.752.939.471.900	3.058.770.271.309.180	norepinephrine
2185-11-19 2:21:00	2185-11-19 4:35:00	20.003.853.933.303.600	18.978.056.596.097.300	norepinephrine
2185-11-19 20:19:00	2185-11-20 0:07:00	20.002.540.622.954.200	3.228.890.136.597.320	norepinephrine
2185-11-26 16:16:00	2185-11-27 1:59:00	500.270.165.503.025	20.649.352.110.922.300	phenylephrine
2185-11-17 1:16:00	2185-11-17 1:30:00	1.000.245.101.749.890	9.914.429.538.184.770	phenylephrine
2185-11-16 1:06:00	2185-11-16 2:30:00	20.010.806.620.121	11.900.827.288.627.600	phenylephrine
2185-11-15 21:27:00	2185-11-17 15:03:00	2.403.846.263.885.490	10.000.000.333.786.000	vasopressin
2185-11-17 15:03:00	2185-11-18 4:45:00	23.999.998.569.488.500	3.287.999.926.507.470	vasopressin
2185-11-18 6:00:00	2185-11-19 9:02:00	23.999.998.569.488.500	6.487.999.854.981.890	vasopressin
2185-11-19 15:37:00	2185-11-20 5:57:00	23.999.998.569.488.500	3.439.999.923.110.000	vasopressin
2185-11-20 23:20:00	2185-11-21 2:07:00	12.003.828.287.124.600	33.410.656.228.661.500	vasopressin

Result and Evaluation



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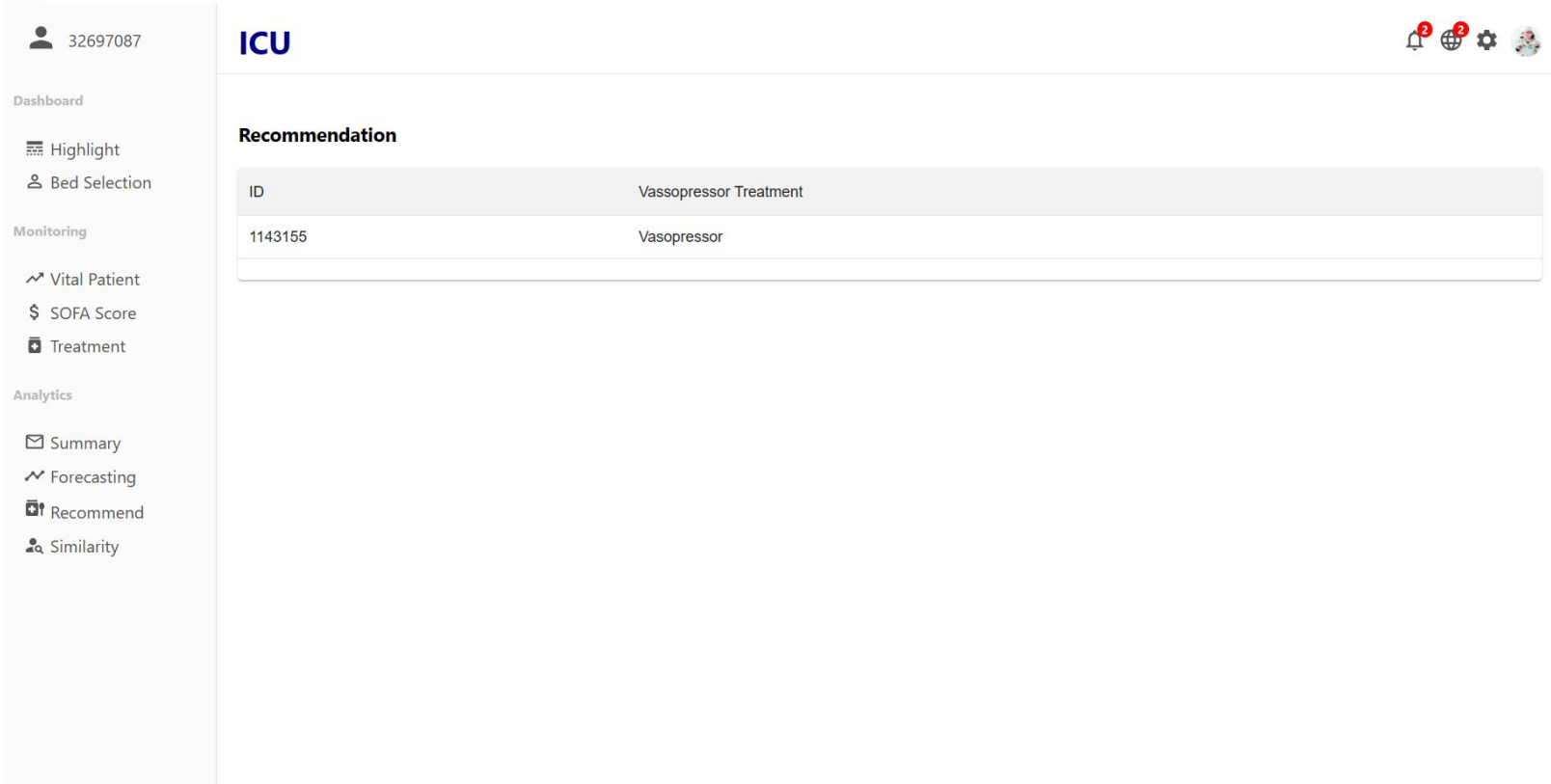

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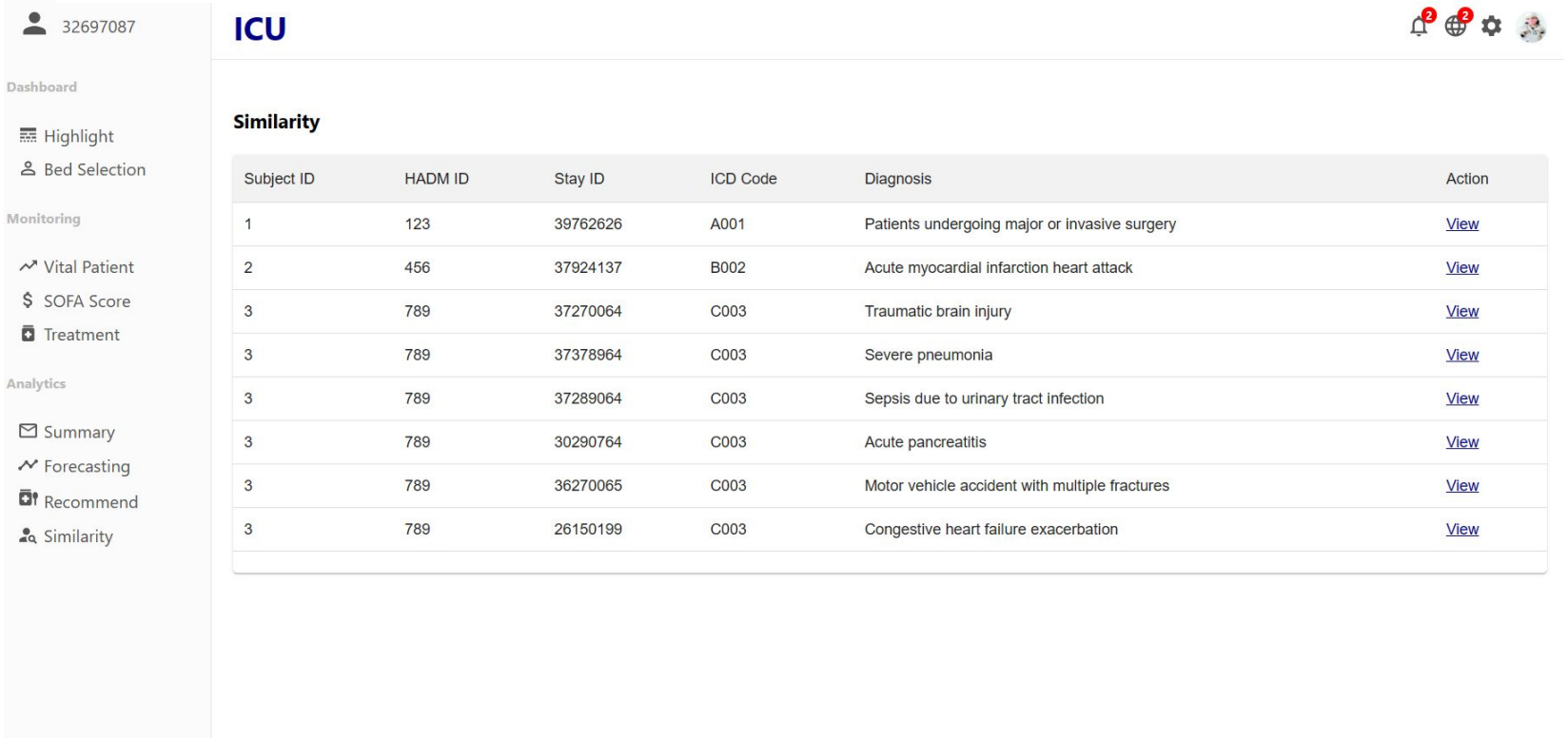

Conclusion

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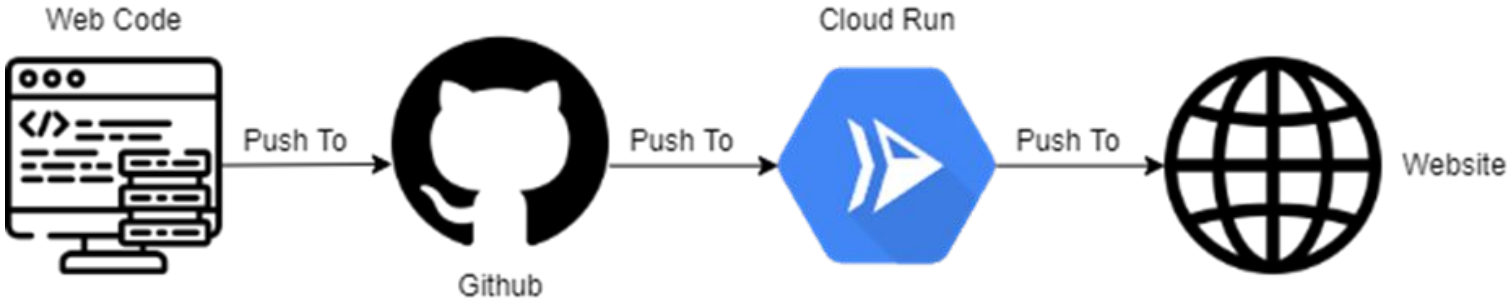
With the real-time dashboard, nurses and doctor can quickly identify emerging conditions in patients and take immediate action if the patient's condition improves or deteriorates, thus improving efficiency in saving lives in the ICU

Future Work



In the next stage, the deployed models from previous research will be combined using Docker, stored on GitHub, and then deployed on Cloud Run.

Thank You