

- 2.1 My wife works in the medical field and I think that there are many aspects of her job which could be done more efficiently with the assistance of a well-tuned classification algorithm. One such example is determining if a patient should be admitted to the intensive care unit (ICU). Care in the ICU is extremely expensive and there is a limited amount of beds available, so it is important to not put someone in the ICU who does not need to be there. It is even more important that you put everyone who requires intensive care into the ICU – not doing so could lead to their death and possible repercussions for the hospital.

A good classification model for determining if a patient should go into the ICU could leverage many different vital signs including:

1. Blood pressure
2. Blood oxygen level
3. Blood sugar
4. Urine Output
5. Creatinine Levels

- 2.2 See **HW01-2.2.R** for code and comments.
- 3.1 See **HW01-3.1.R** for code and comments.