



AltaML

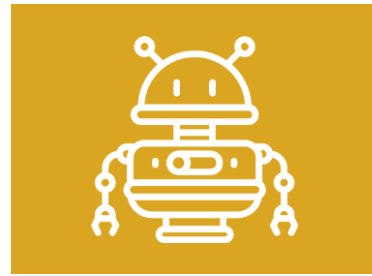
Machine Learning & Health

Cory Janssen, Co-Founder, AltaML



What is ML?

A Few Definitions



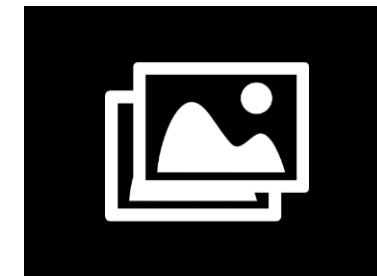
Artificial Intelligence

Replicating part, all, or more than human intelligence



Machine Learning

Enabling computers to learn without being explicitly programmed (usually with large datasets)



Deep Learning

Building multiple layers of abstraction on datasets to construct higher-level meaning

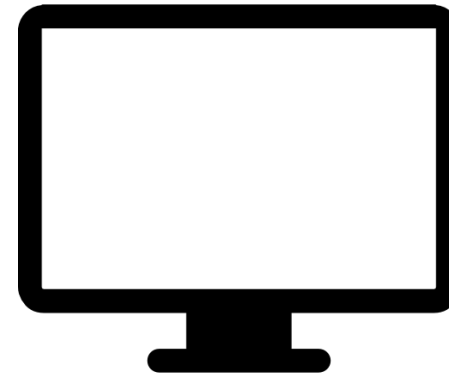


What is ML?

Not Traditional

**Traditional
Programming**

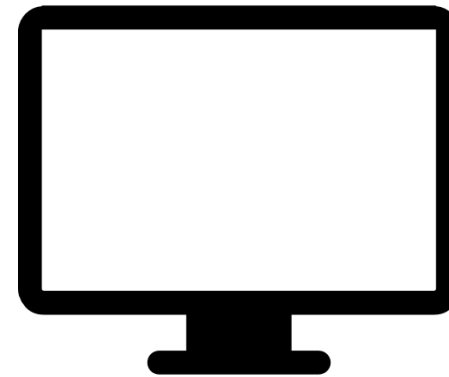
Data →
Rules →



Answers

**Machine
Learning**

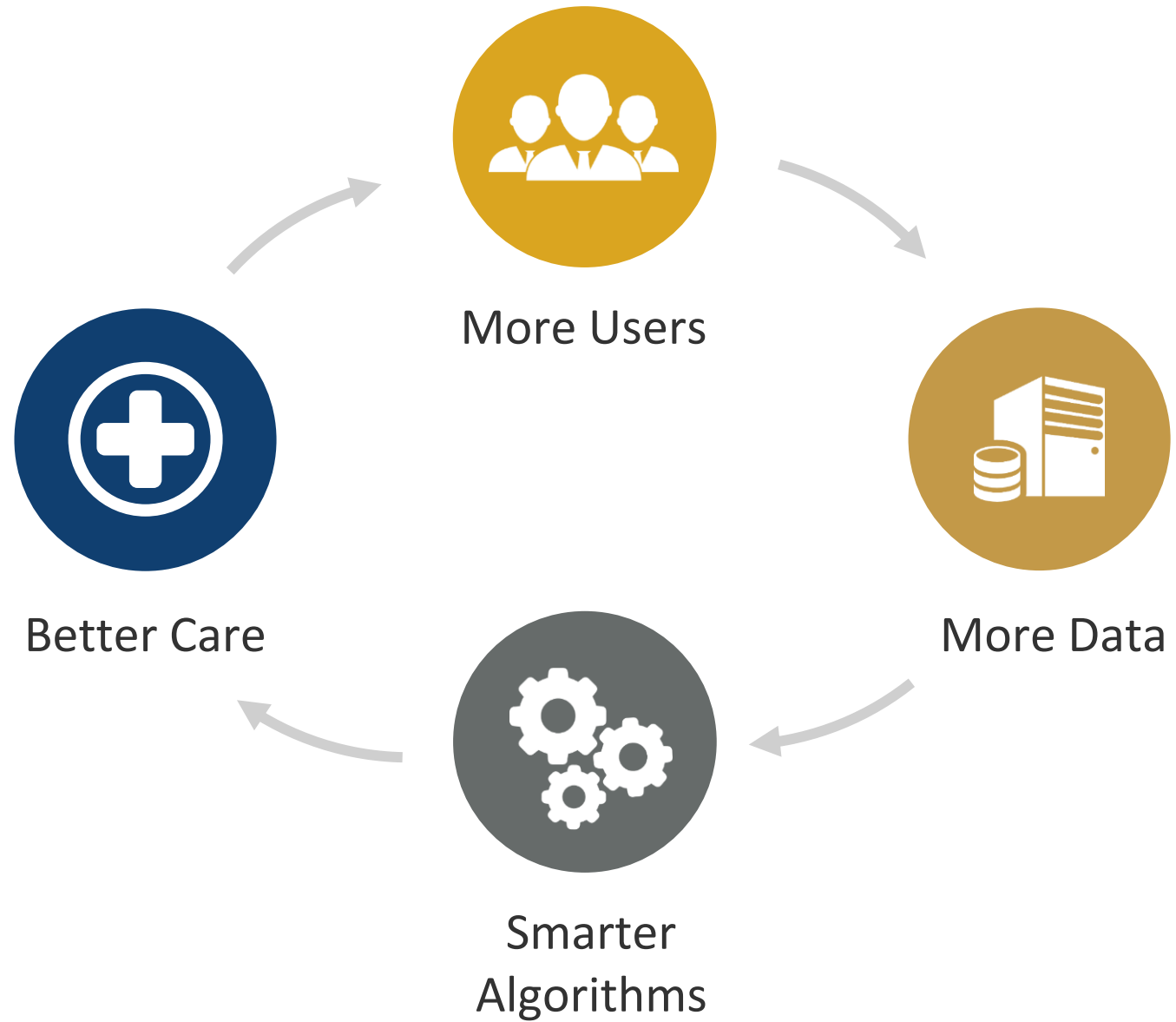
Data →
Answers →



Rules

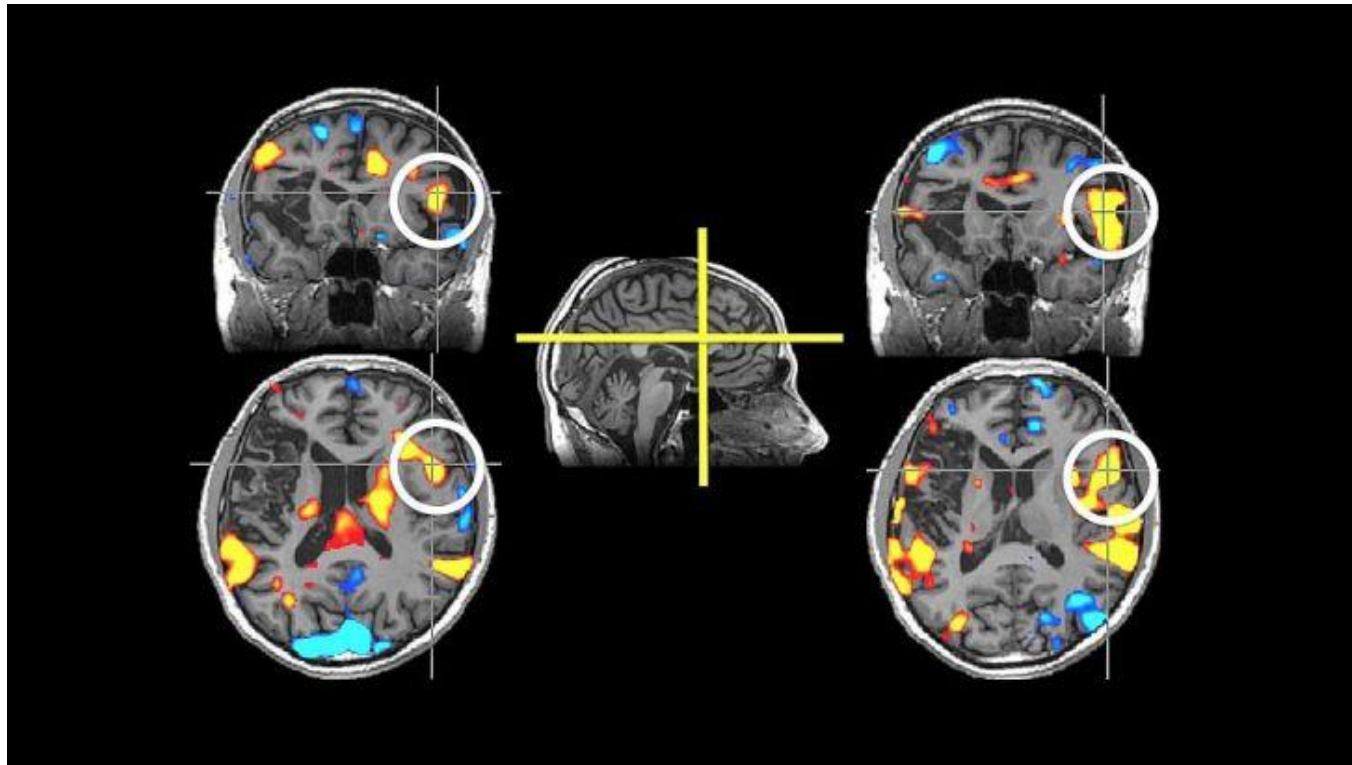


Data Network Effect





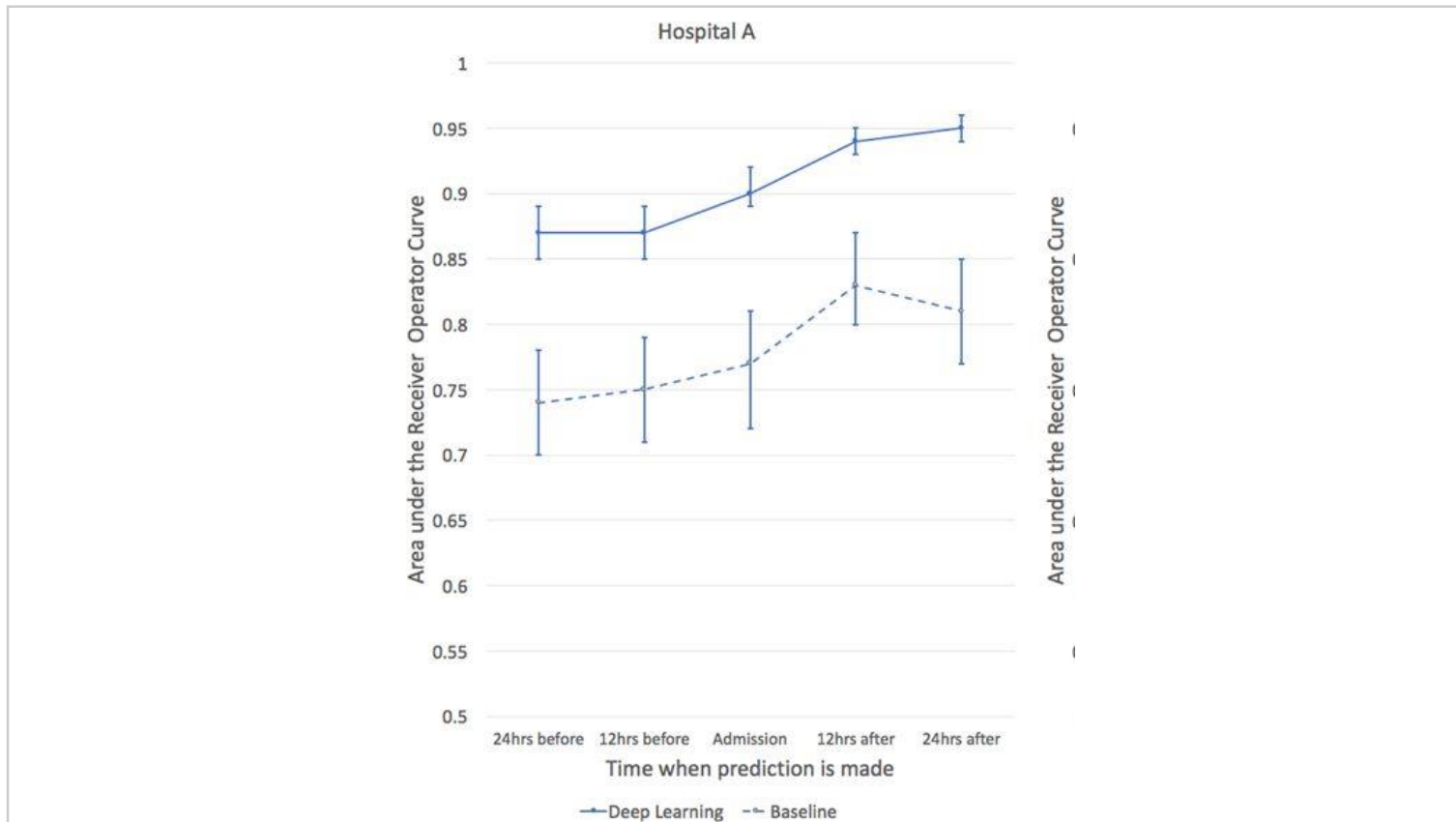
Examples – Intelligent CDSS



Identifies and triages suspected stroke patients from CT images, in **95%** of cases alerting a specialist an average of **52 minutes** earlier



Examples – Outcome Prediction



Produced a model with **93%-94%** accuracy in predicting in-hospital mortality versus **86%** for traditional methods



The Opportunity...

The amount of medical data generated every year worldwide is rising astronomically:

Growth in healthcare data

1 exabyte = 1 billion gigabytes

Source: Stanford Medicine 2017, IDC 2014



2013
153
EXABYTES



2020
2,314
EXABYTES

- Alberta has a **unique** data set
- Improve patient **outcomes** and clinician **satisfaction**



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