IBM Talk'n'Labs – Cloud, Data & AI

Simplificando Machine Learning e Deep Learning

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15:20 – Lab: Simplificando Machine Learning e Deep Learning

There is no AI without an IA

[Information architecture]

81%

do not understand the data needed for AI

AI pioneers are

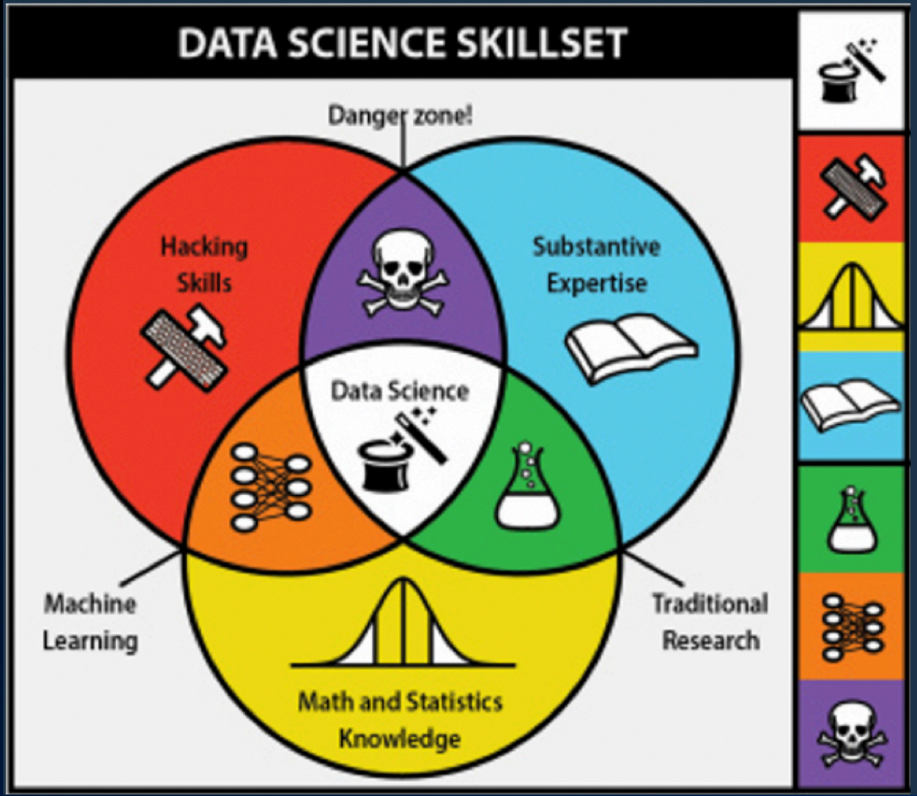
8x

more likely to have a robust data architecture

> ***No amount of AI algorithmic sophistication will overcome a lack of data [architecture]***
>
> ***Data collection & preparation is the most time consuming and difficult part of AI***

MITSloan

Sources: 2018 MITSlone "Reshaping business with AI"



Data science, due to its interdisciplinary nature, requires an intersection of abilities: Hacking skills, math and statistics knowledge, and substantive expertise in a field of science.

Hacking skills are necessary for working with massive amounts of electronic data that must be acquired, cleaned and manipulated.

Math and statistics **knowledge** allows a data scientist to choose appropriate methods and tools in order to extract insights from data

Substantive expertise in a scientific field is crucial for generating motivating questions and hypotheses and interpreting results.

Traditional research lies at the intersection of knowledge of math and statistics with substantive expertise in a scientific field.

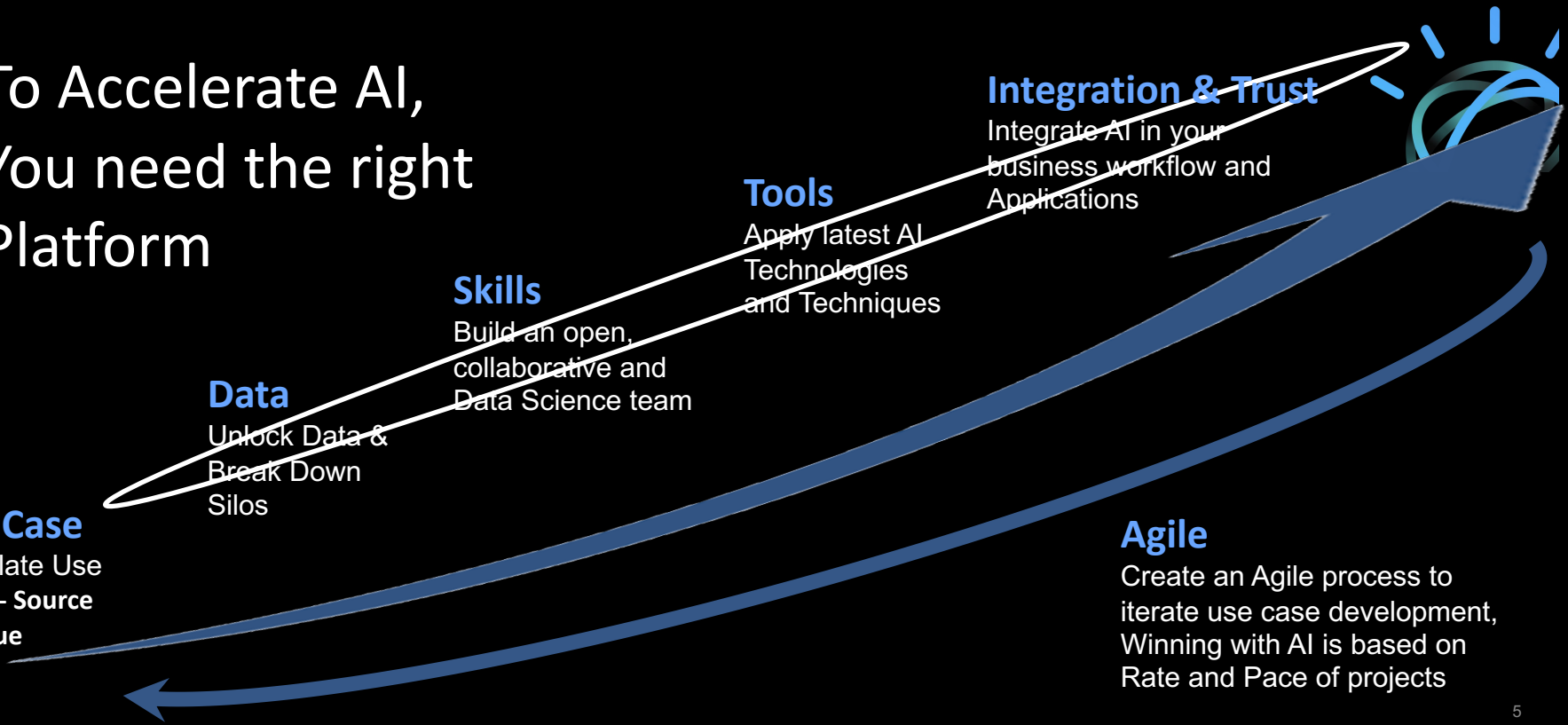
Machine learning stems from combining hacking skills with math and statistics knowledge, but does not require scientific motivation.

Danger zone! Hacking skills combined with substantive scientific expertise without rigorous methods can beget incorrect analyses.

Putting AI to Work for Business

One use case at a time…

To Accelerate AI, You need the right Platform



The AI Ladder – Scale, Speed and Simplicity..

A prescriptive approach to accelerating the journey to AI

AI

INFUSE – Operationalize AI with trust and transparency

ANALYZE - Scale insights with AI everywhere

ORGANIZE - Create a trusted analytics foundation

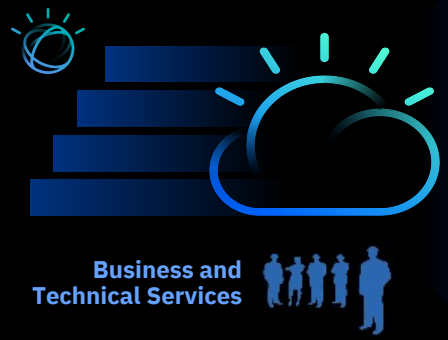
COLLECT - Make data simple and accessible

Data of every type,
regardless of where it lives

MODERNIZE
your data estate for an
AI and multicloud world

IBM uniquely delivers the AI ladder

One platform, any cloud



Pre-built Use Cases
Watson Applications

Prepare
Watson Knowledge Catalog

Build
Watson Studio

Run
Watson Machine Learning

Manage
Watson OpenScale

Hybrid Data Management
Db2 Family

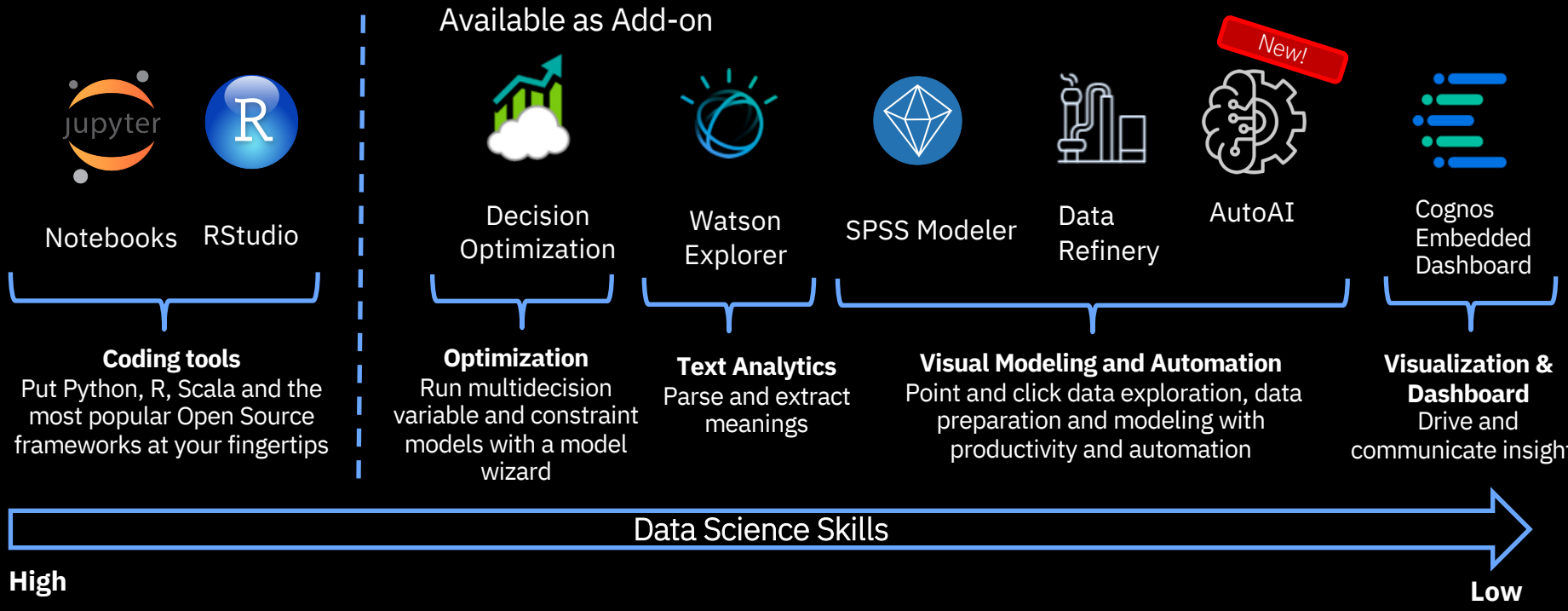
Data Ops & Governance
InfoSphere Family

Unified Data and AI Platform
Cloud Pak for Data

IBM Cloud · openstack · aws · Azure · openstack · Google Cloud · intel · IBM Z · IBM **Power Systems** · **Hyperconverged** Cloud System

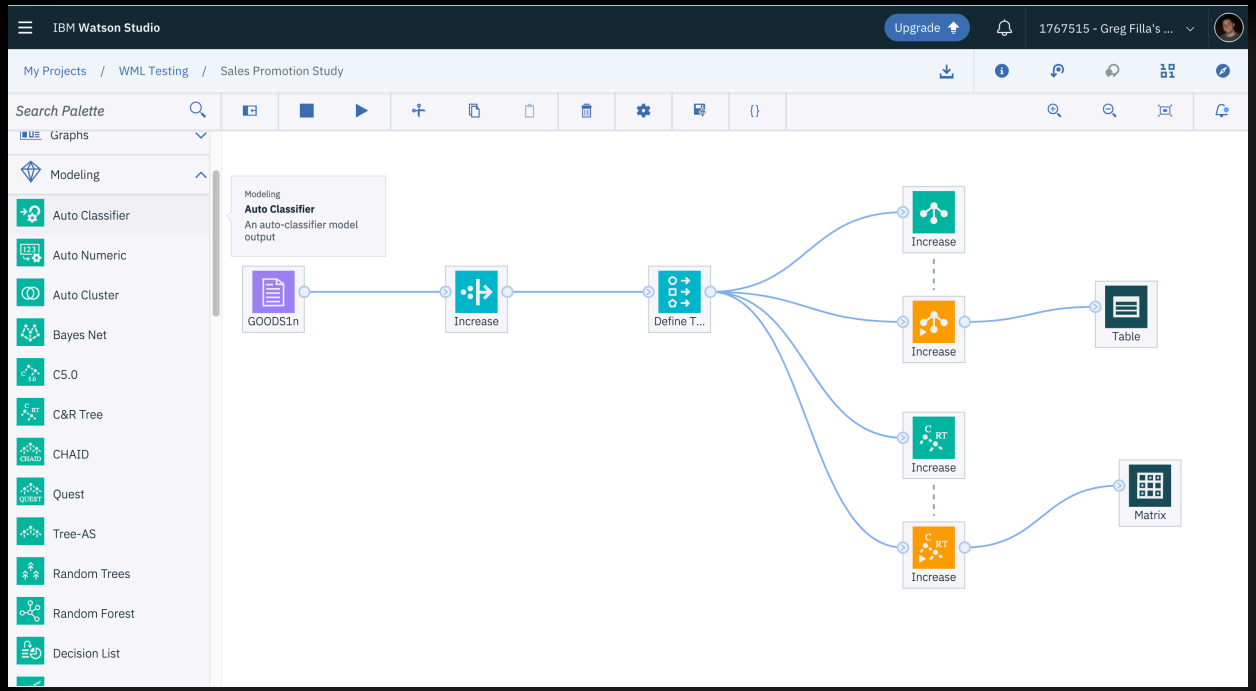
Watson Studio and Watson Machine Learning Add-ons

More powerful and flexible tools built for teams

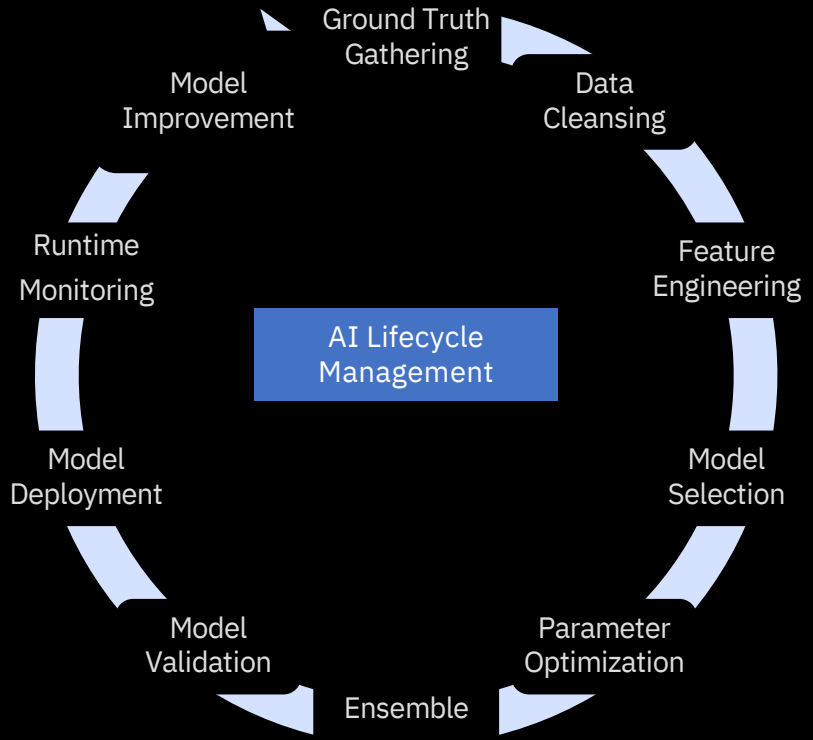


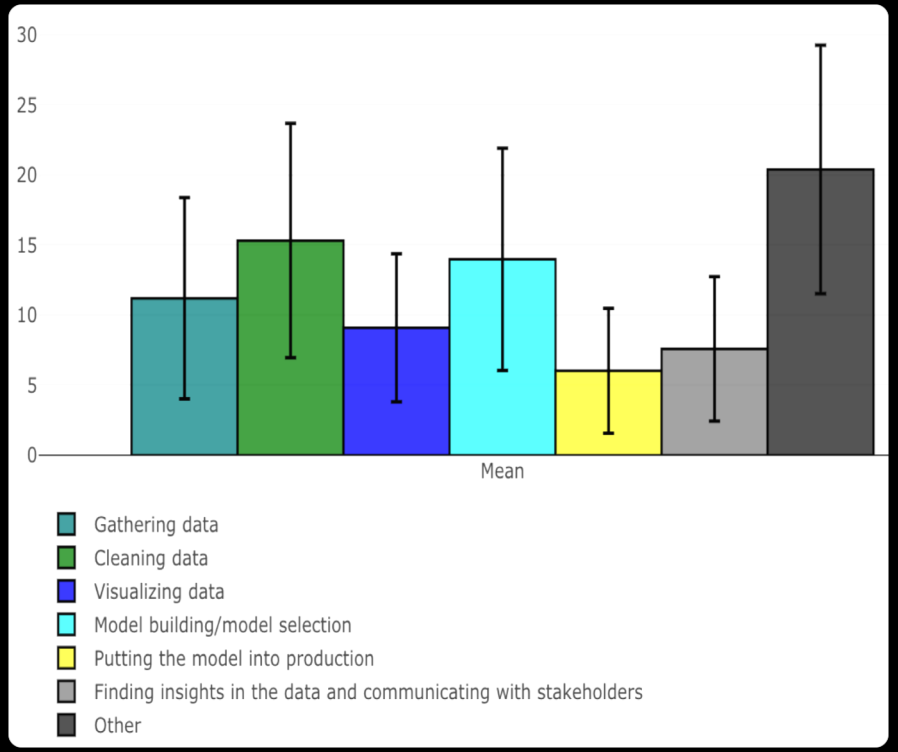
SPSS Modeler for Watson Studio

Many new nodes in 2.0 – 28 for data preparation & 44 for Machine Learning. Includes Auto Data Prep and Auto Modeling, enhanced Data Visualization, Data Refinery integration and push to production options.



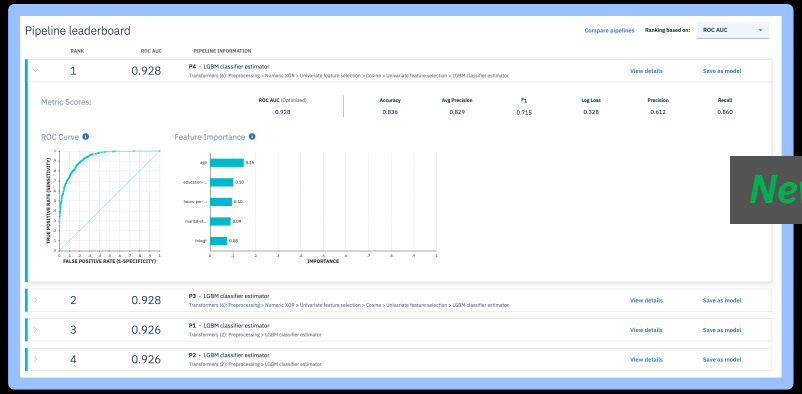
Case for AI Automation: AI Workflow's Bigger & More Complex



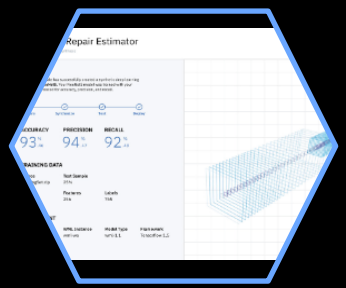


Source: https://www.kaggle.com/paultimothymooney/2018-kaggle-machine-learning-data-science-survey

IBM's Strategy for Automation of AI Development



New



Transfer Learning

- Small data and compute requirements – leverage Watson base model
- Unstructured data (image/text)
- Featured in Watson Services, available through Watson Studio

AutoAI Experiments | Pipeline optimization

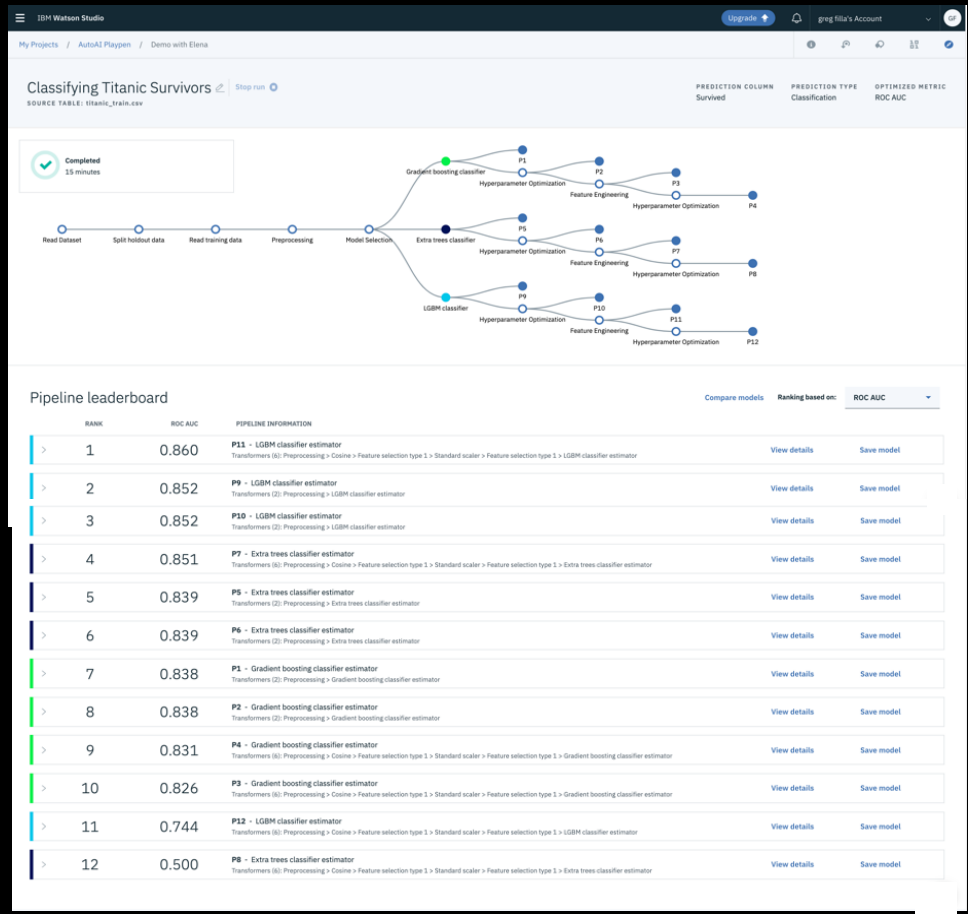
- Automation from data prep to model selection and tuning
- Structured data (csv)
- **New! AutoAI** GA as of May 2019

Neural Network Search

- Automate the generation and training of a custom deep learning model
- Unstructured data (image/text)
- **NeuNetS** as a feature of Watson Studio, available in Open Beta

Watson Studio AutoAI

- Integrated with **Watson Studio** and **Watson Machine learning**
- Automatically ingest, clean, transform, and model with data prep, model selection, feature engineering, and hyper-parameter optimization
- Training feedback visualizations provide real-time results to see model performance
- Binary, Multiclass, and Regression support
- One-click deployment to Watson Machine Learning



Benefits of Using AutoAI

Build models faster

Automate data preparation and model development

Jump the skills gap

No coding? No problem – get started with a couple clicks

Discover more use cases

Supercharge collaboration with AI everywhere to disrupt & transform

Find signal from noise

Auto-feature engineering makes it easy to extract more predictive power from your data

Rank and explore models

Quickly compare candidate pipelines to find the best model for the job

Ready, set, deploy

Pipelines generated with AutoAI can be deployed to REST APIs with one click


demo

Thank you

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