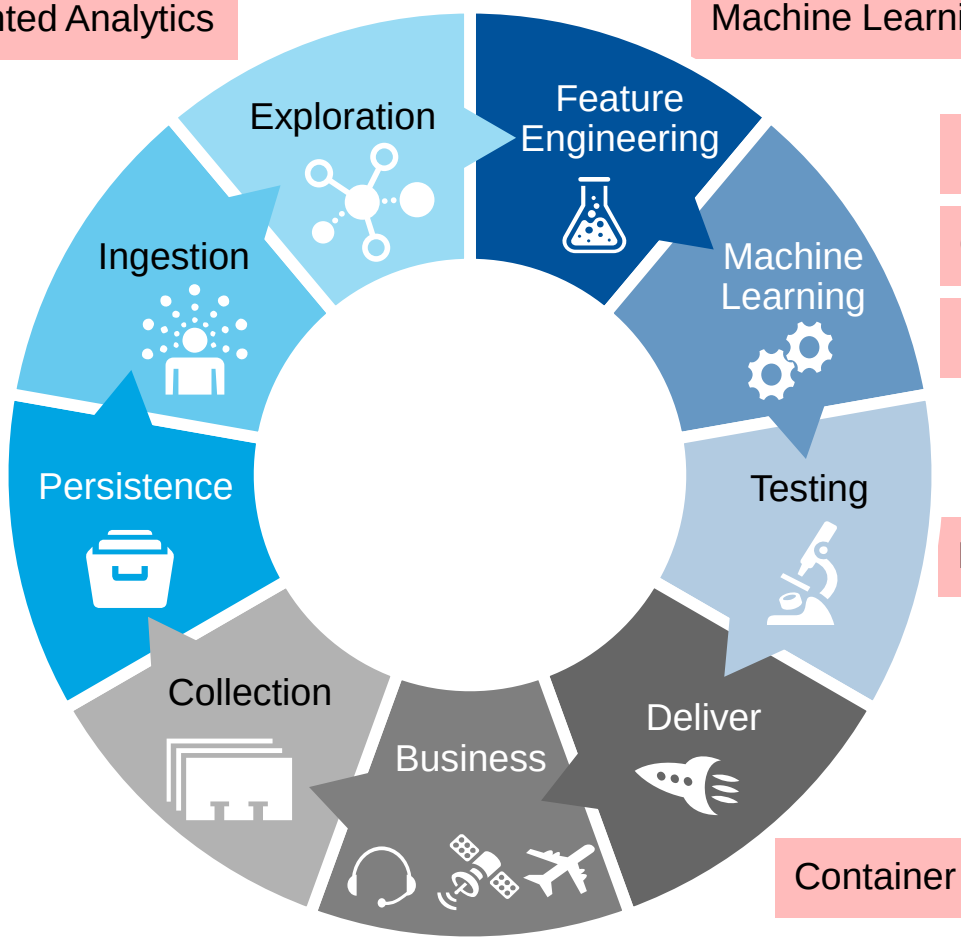
Gartner Data & Analytics Summit
Summit 2018
22 – 23 May 2018 / São Paulo, Brazil

Gartner Summits

Advancing in Machine Learning: Deep Learning and Beyond

Erick Brethenoux

Cool Trends



Augmented Analytics

Machine Learning Automation

Machine Learning Automation

Open Source

Deep Learning

Walled Computing

Machine Learning Automation

Container and Rest-API-Deployment

Bias Discussion

Gartner

Key Issues

1. What are the latest advances?
2. What new technologies and vendors are out there?
3. What are the advanced practices to become more effective?

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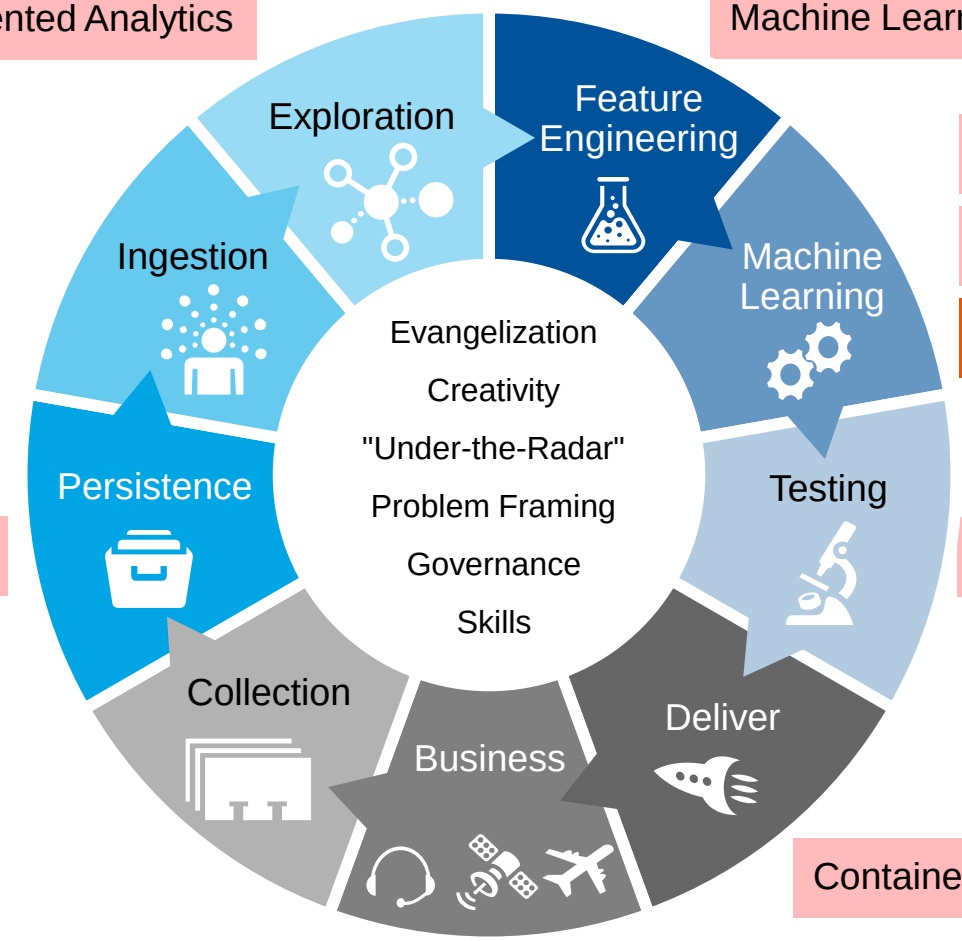

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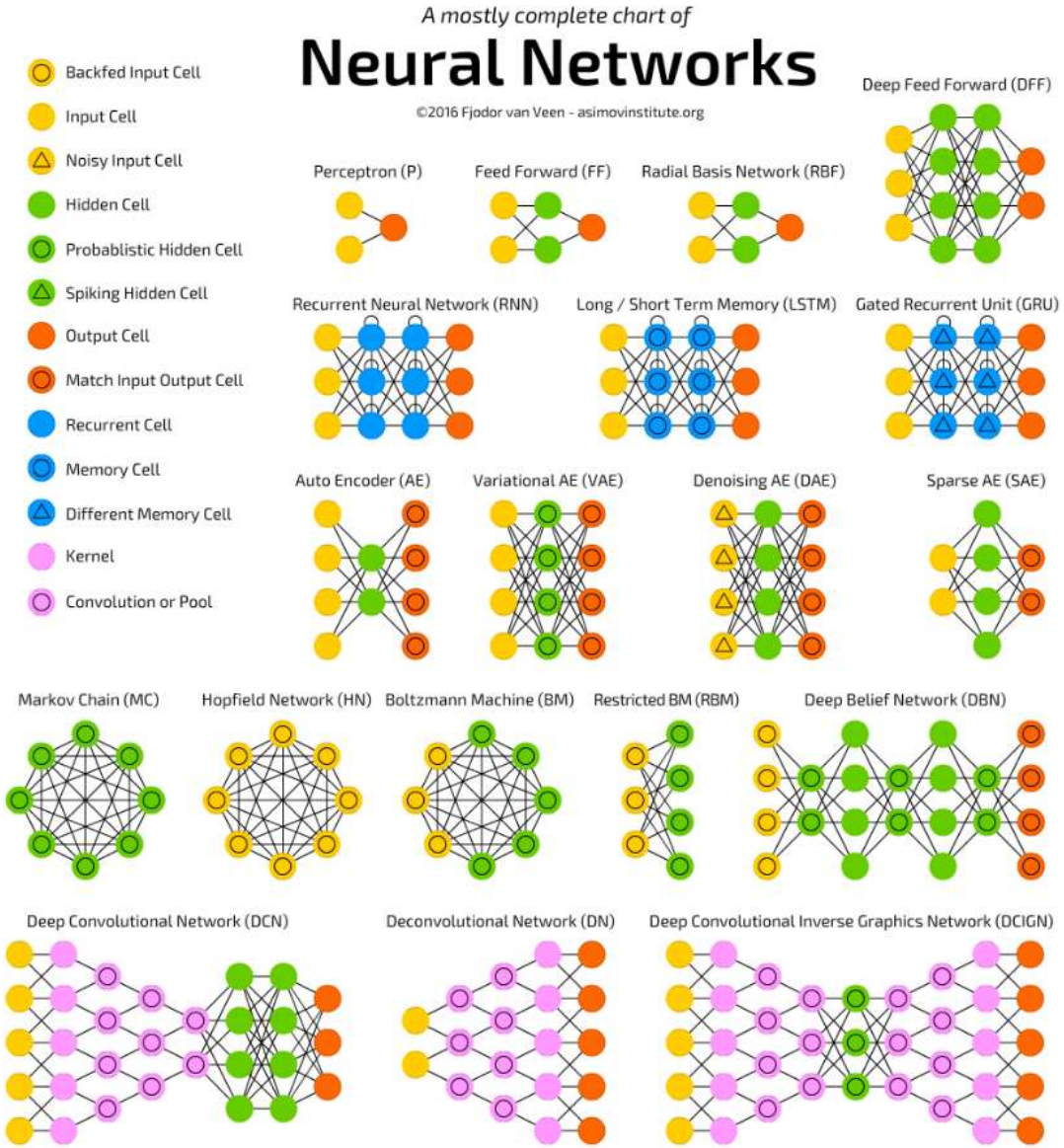

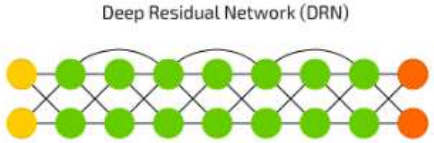

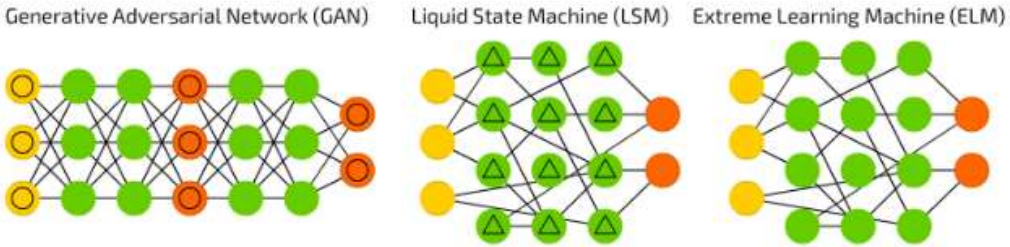

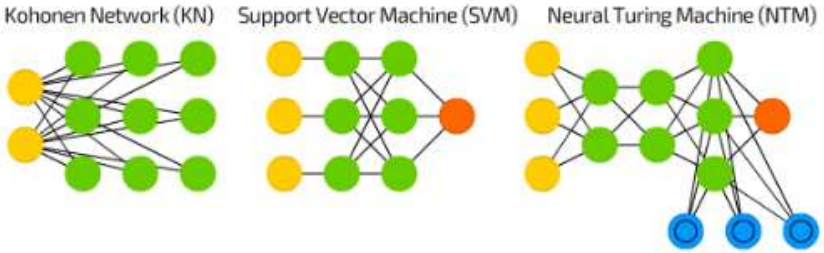

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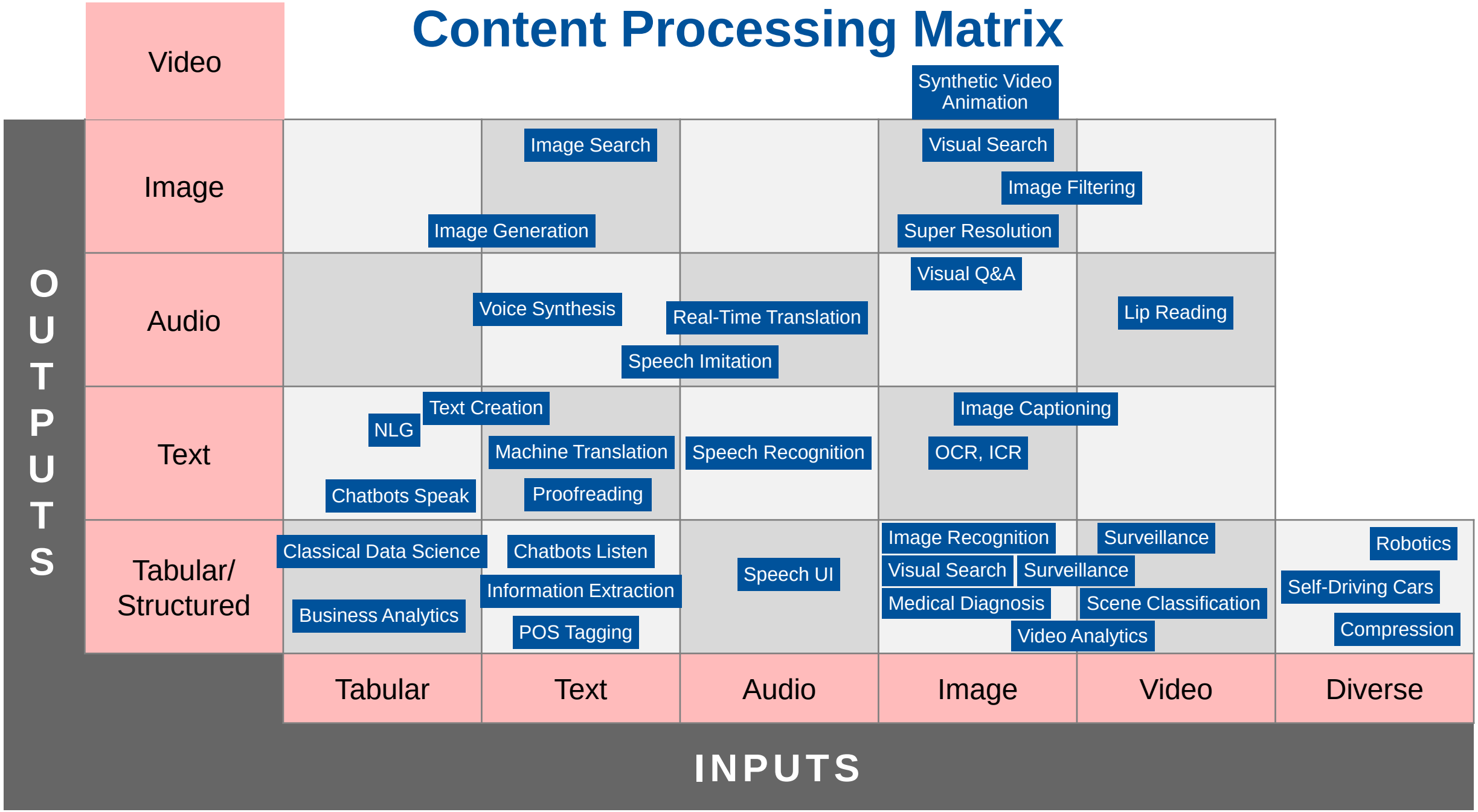
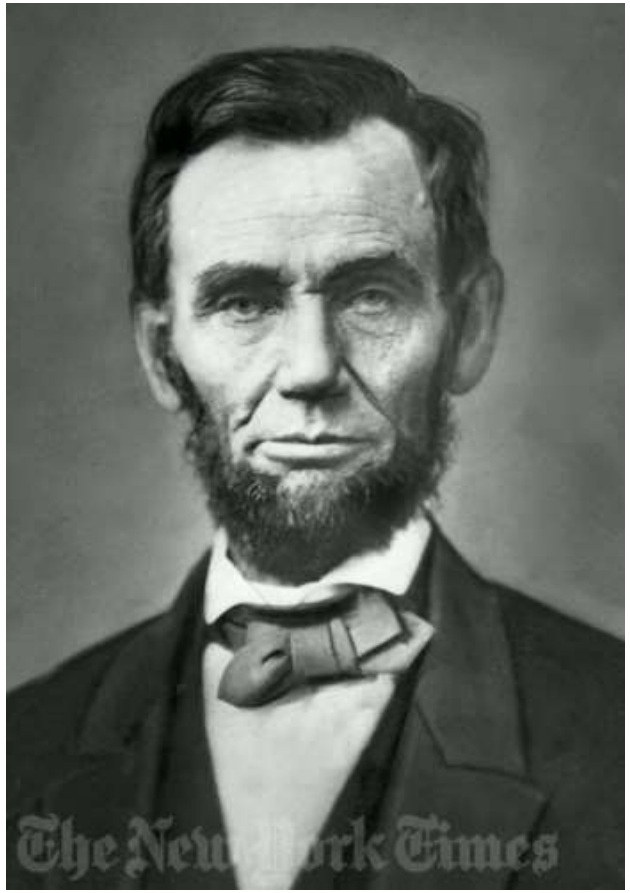
Content Processing Matrix



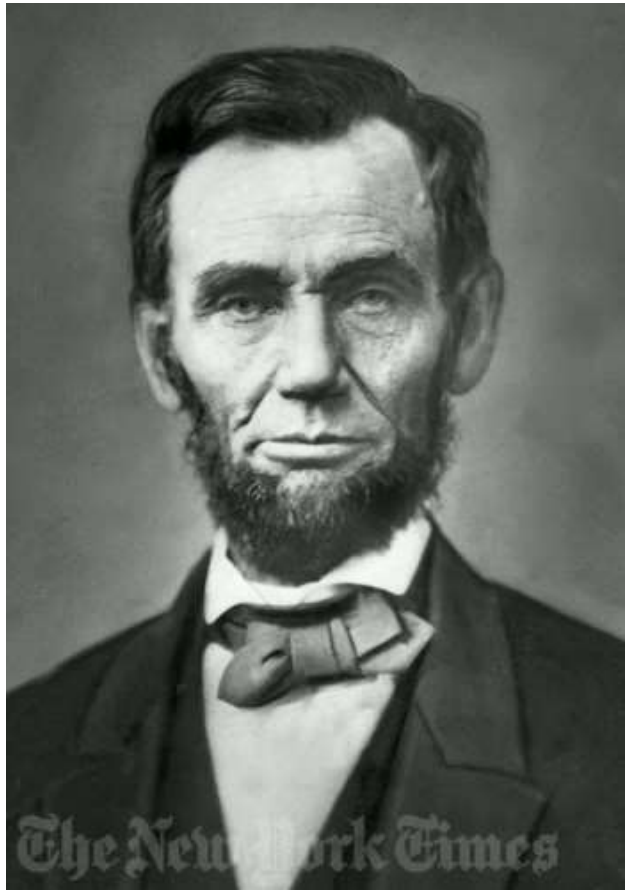
Real Magic



With kind permission from

Gartner

Real Magic



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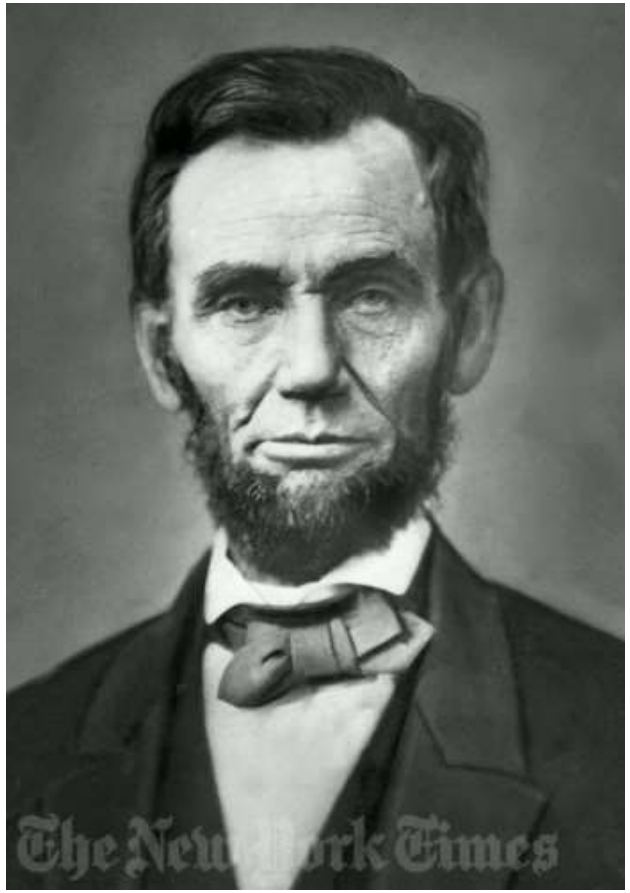

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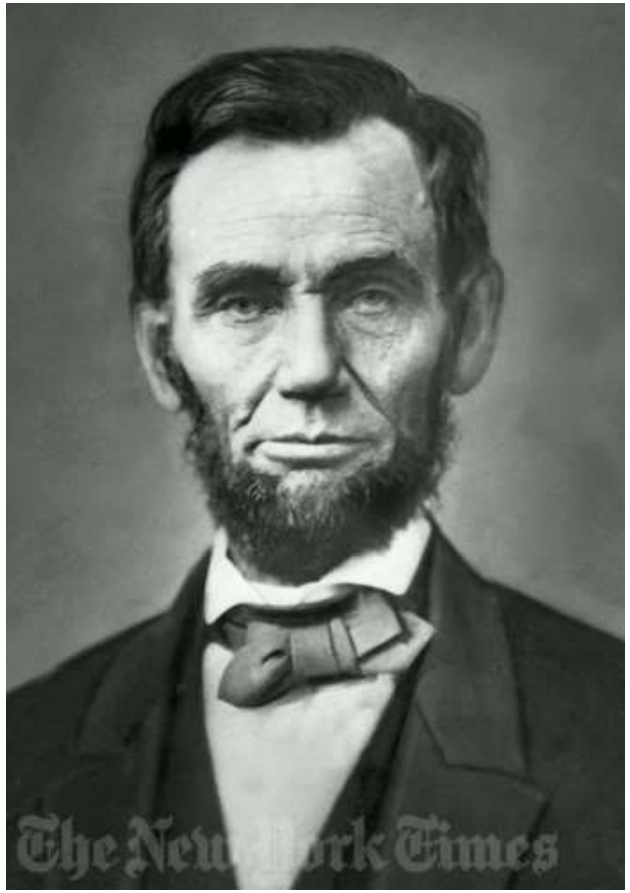

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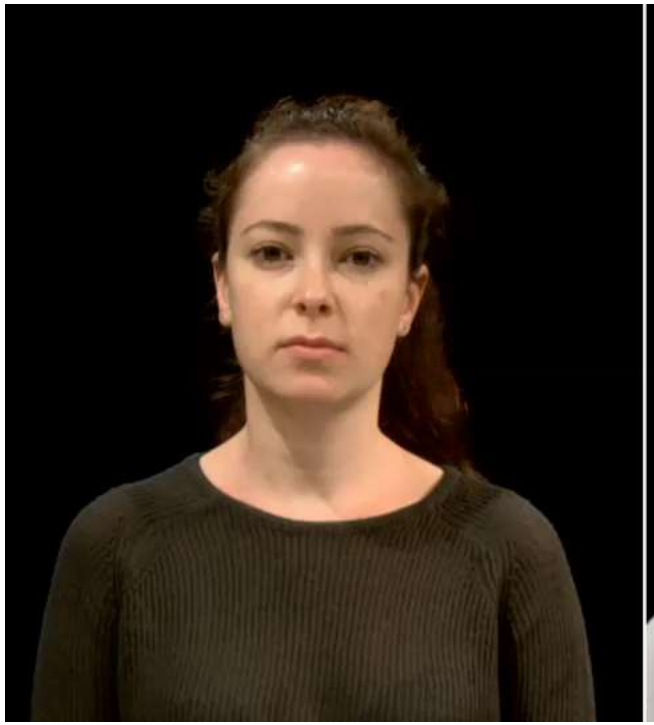
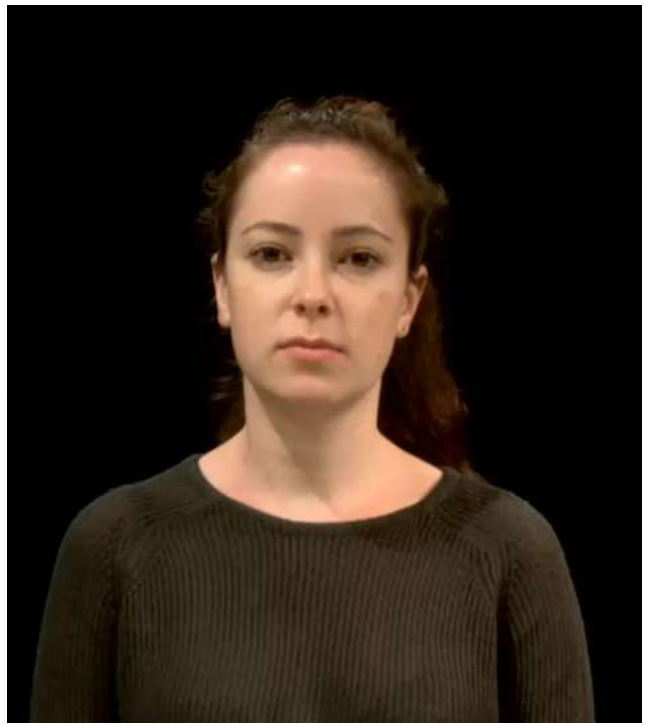
Real Magic

We only have that still picture



This here is the driving video

This is the resulting video



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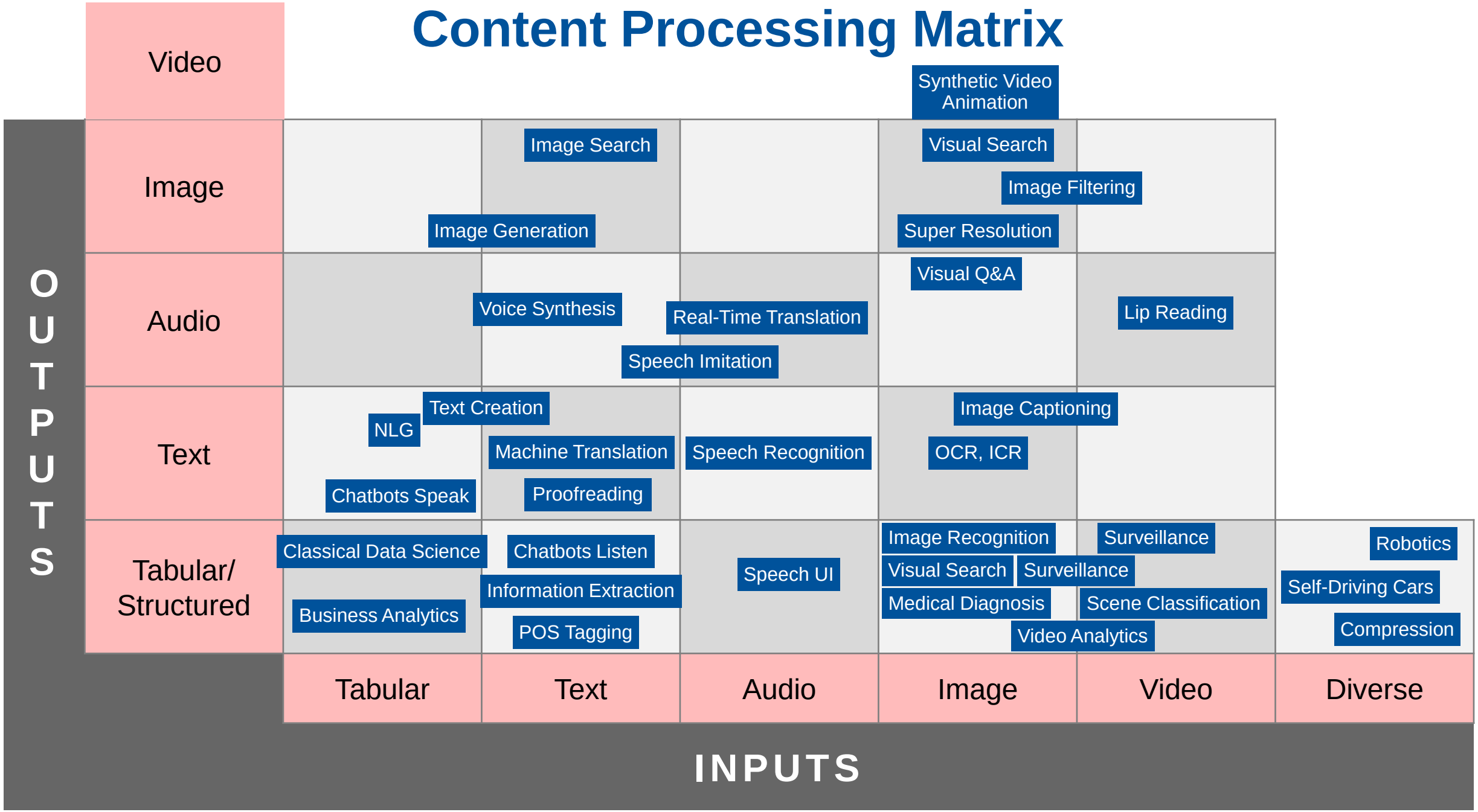

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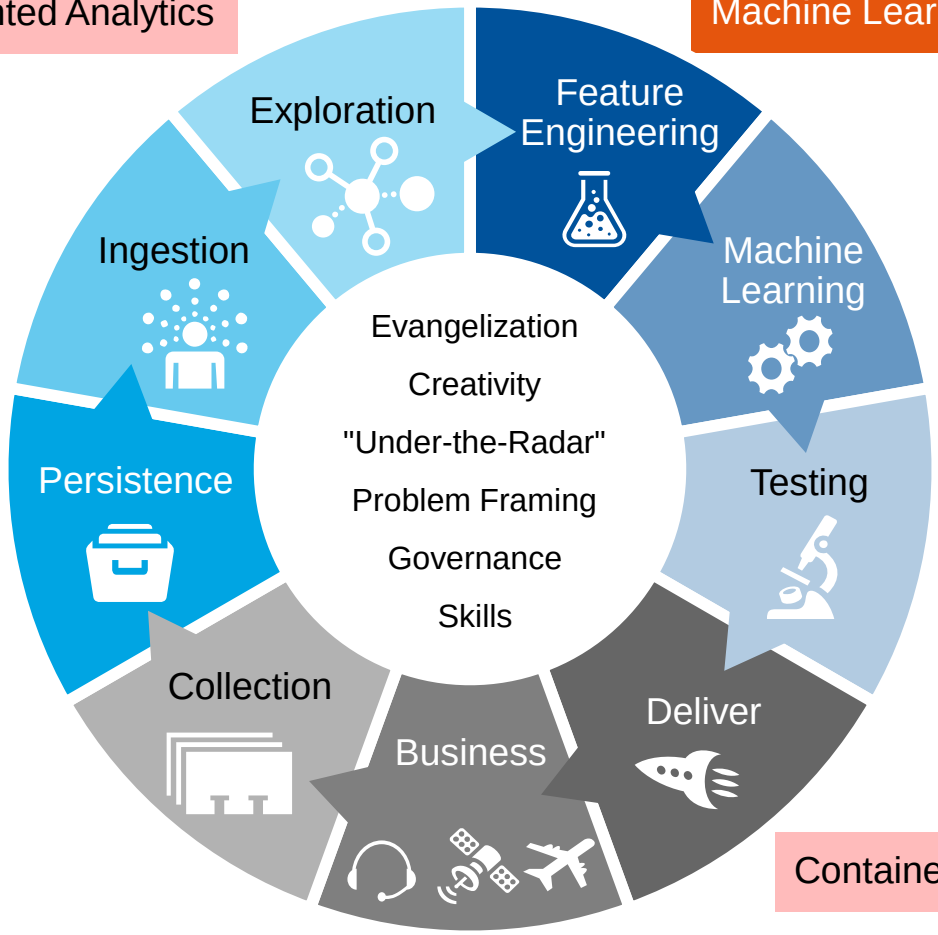

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Machine Learning Automation

Augmented Data Science = Machine Learning Automation

Try different features

- Greedy forward/backward selection
- Feature stacking

Try model candidates

Do a hyper parameter search

- Grid search
- Genetic algorithms

TPOT

auto-sklearn

Auto-WEKA

machineJS

DataRobot

H2O.ai (Driverless AI)

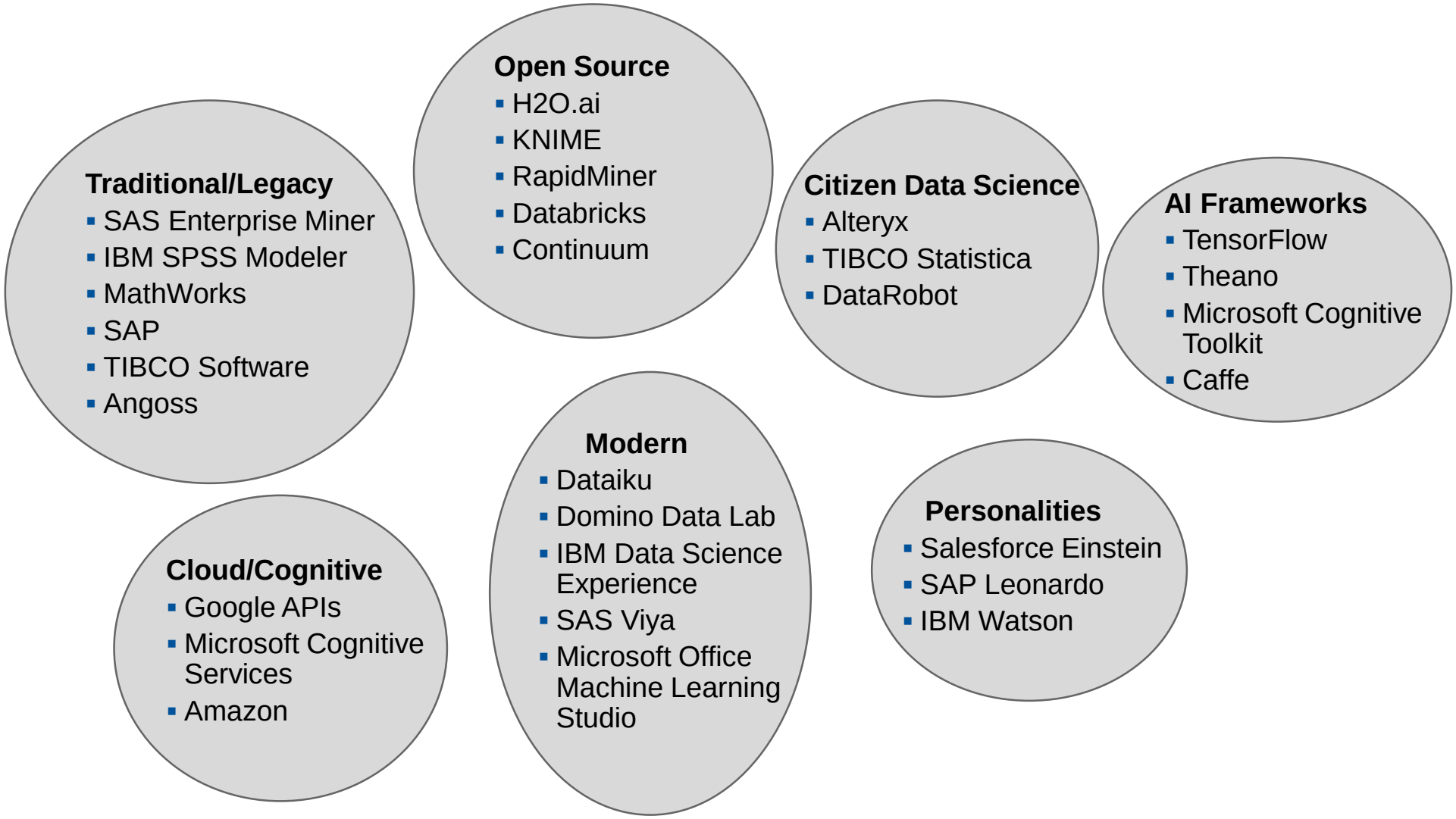
#AutoML

Key Issues

1. What are the latest advances?
2. What new technologies and vendors are out there?
3. What are the advanced practices to become more effective?

Several Angles of Market Segmentation

Data Science and Machine Learning Platform Clusters



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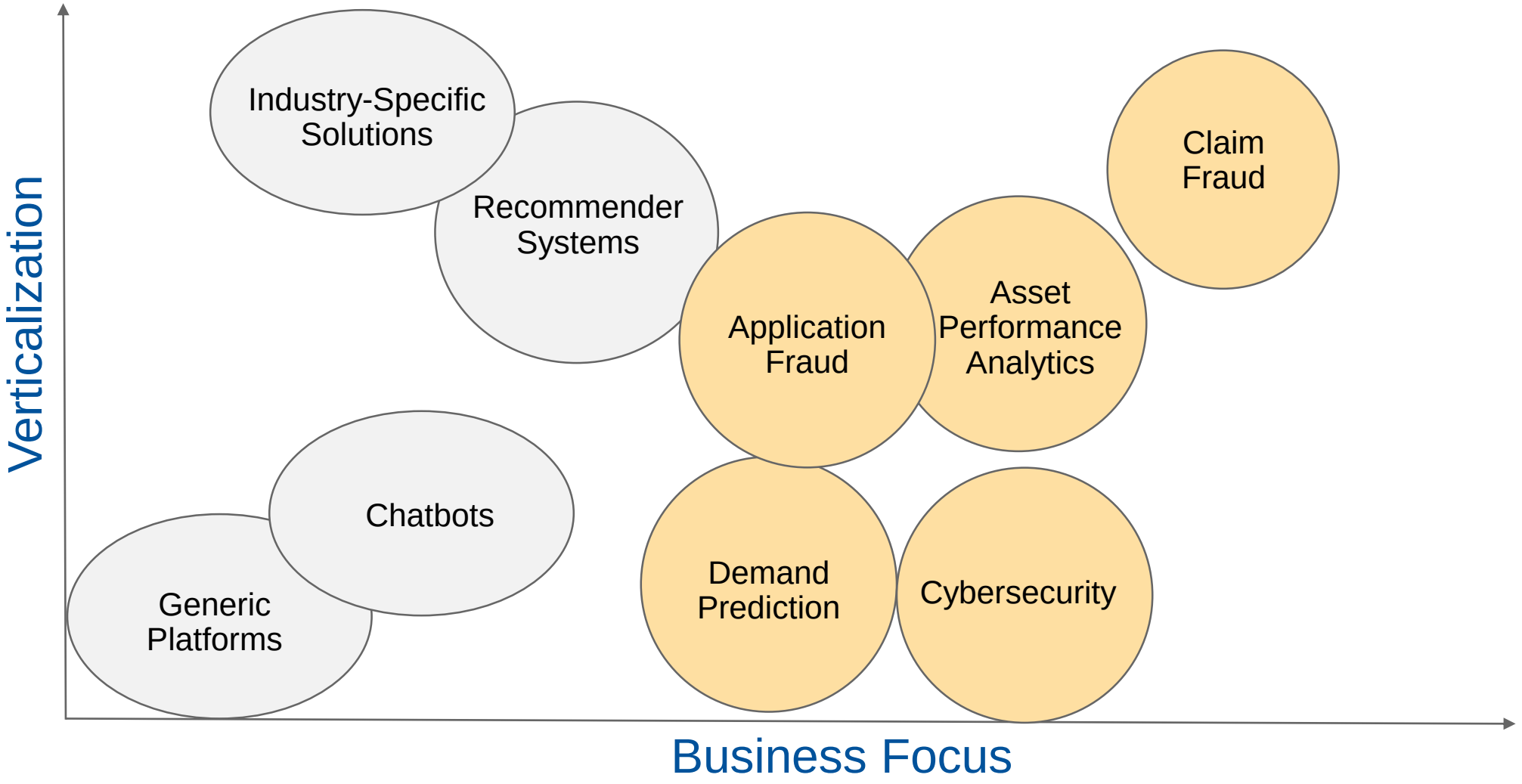
DS/ML Software Space



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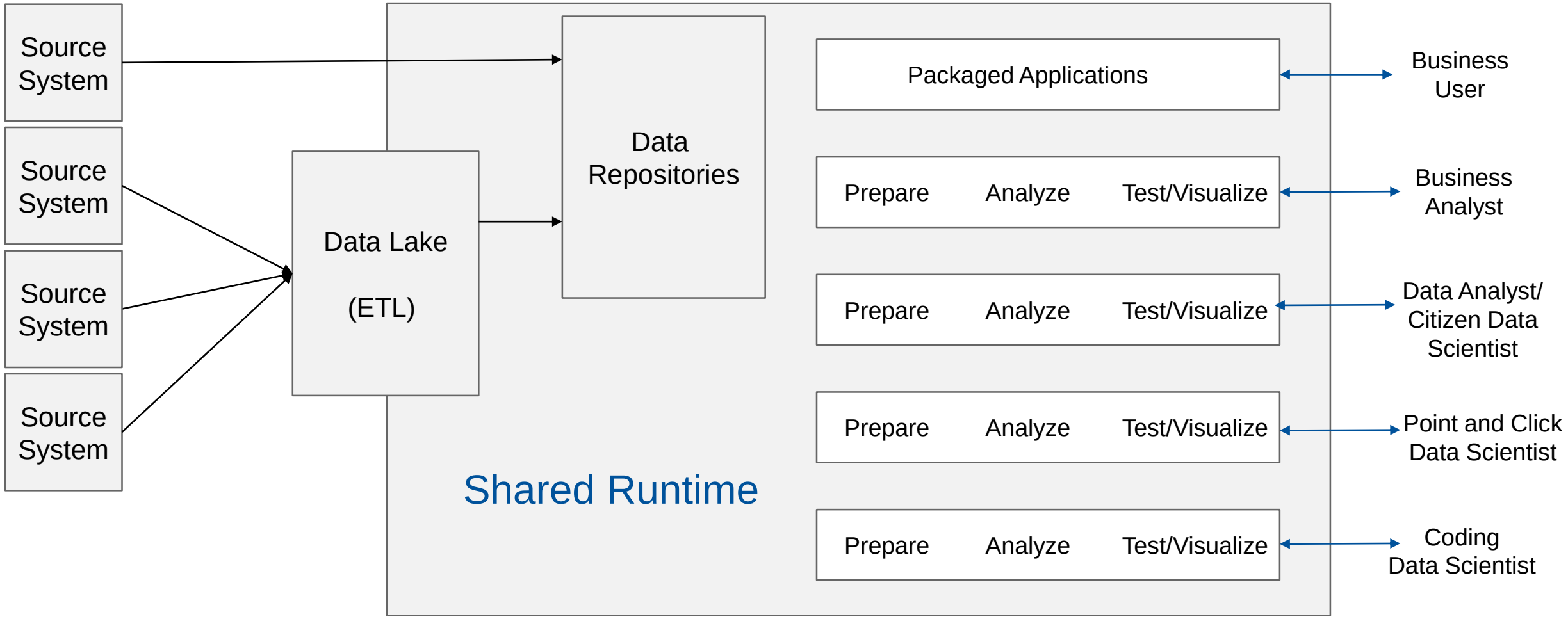
The Ideal Data Science Platform: Multiple Endpoints — Shared Runtime



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Key Issues

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3. **What are the advanced practices to become more effective?**

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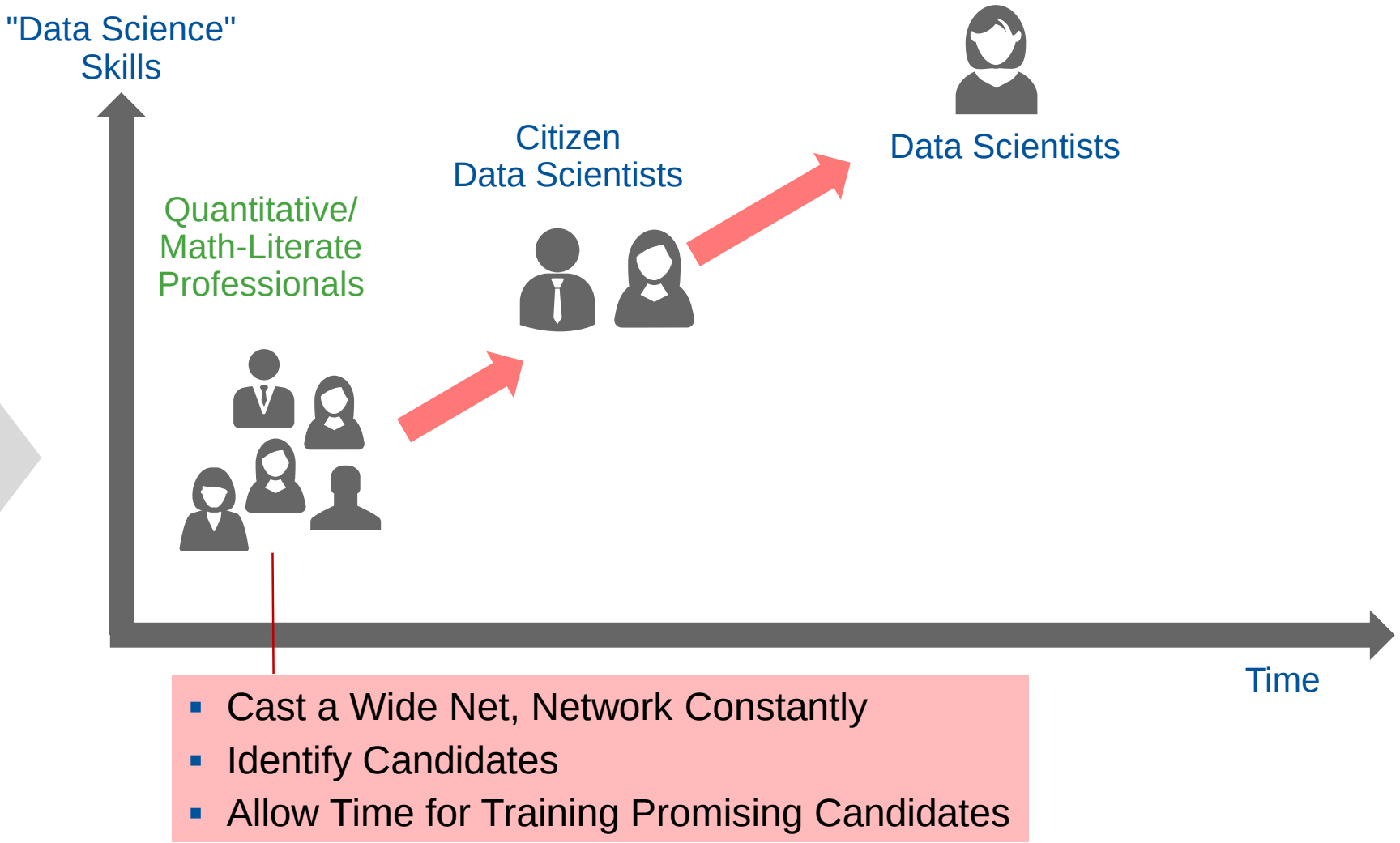
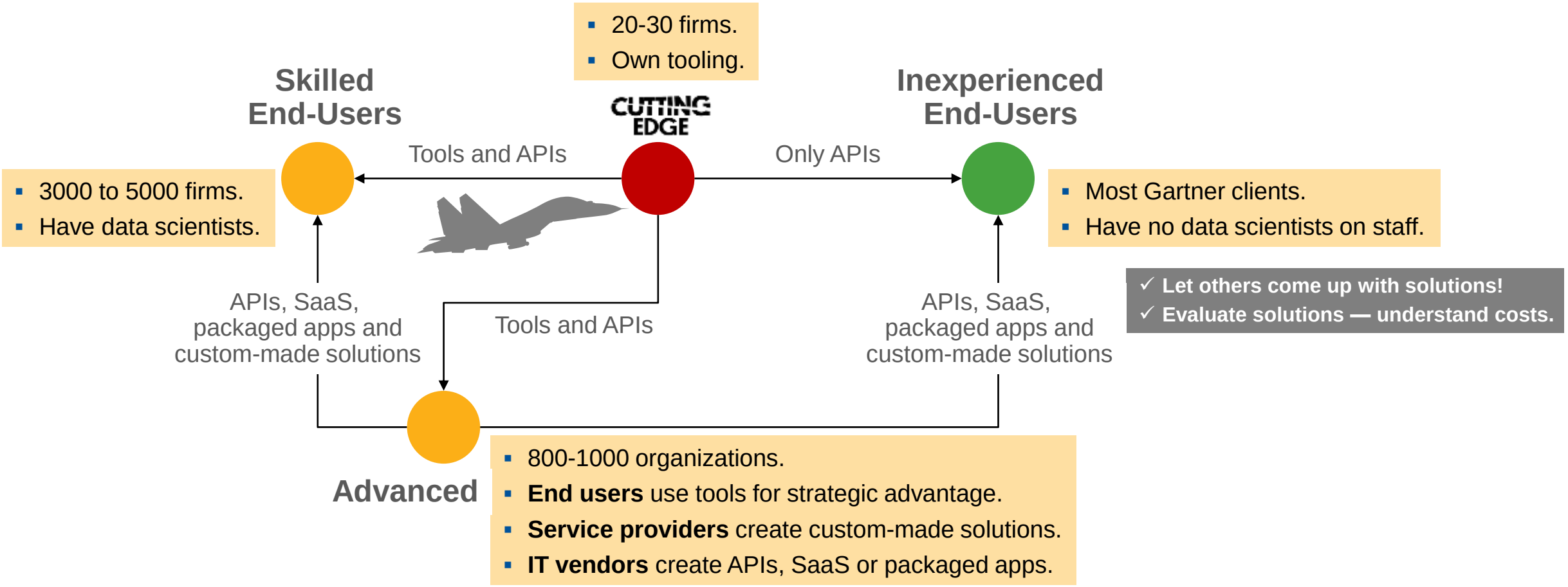
Upskilling

- Physicists
- Chemists
- Biologists
- Engineering Disciplines
- Social Scientists
- Computer Scientists
- Statisticians
- Operations Researchers
- Mathematicians
- Industrial Engineers
- MBAs
- Astronomers
- Data Analysts
- Actuaries
- Risk Managers
- Control Engineers
- Financial Accountants
- Quality Specialists (Six Sigma)



- Cast a Wide Net, Network Constantly
- Identify Candidates
- Allow Time for Training Promising Candidates

Deep-Learning/AI Adoption Patterns



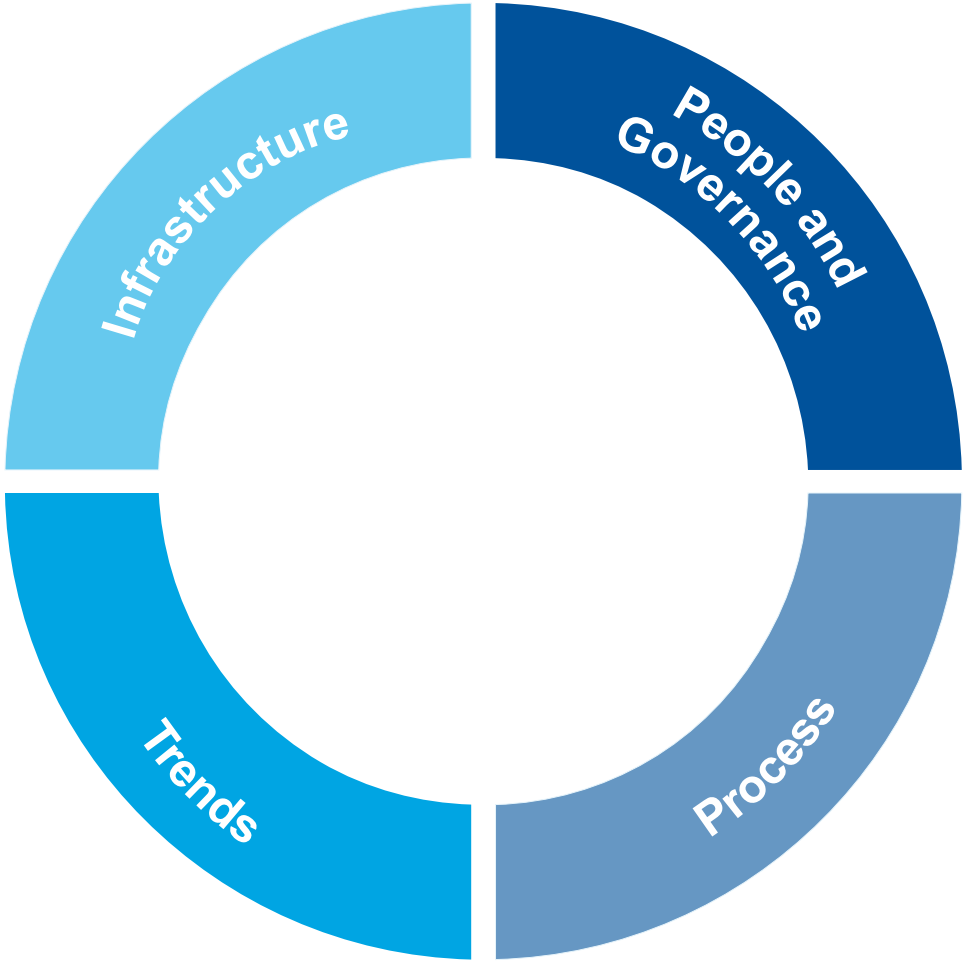
Four Classes of Enterprise Problems

04

How to focus onto the most relevant data parts?

03

How to know what is relevant even in 2-3 years?



01

Which personas to hire?

How to make them work together?

How to become more effective in ML/AI?

02

How to create repeatable workflows?

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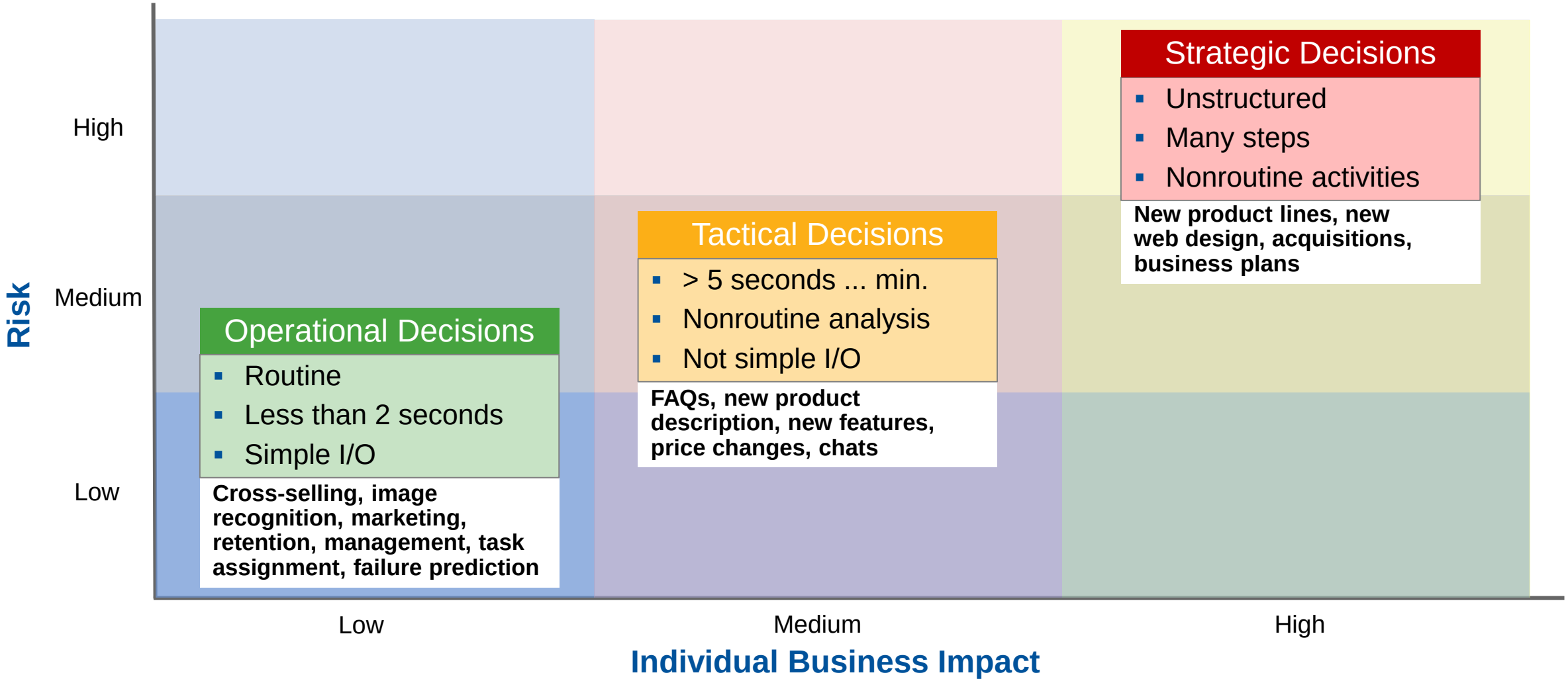
Toward Decision Modeling



Other Recommendations on How to Start …

- ✓ Engage the business:
  - Identify at least three separate business initiatives that can benefit from exploiting amazing innovation (AI) technologies in 2018 to 2019
- ✓ Use the three-phase approach:
  - Scope initiatives for quick time to value
  - Identify the right skills
  - Experiment and learn
- ✓ Respect the impact on people:
  - The impact of software and robots on employment, work and careers of people will be profound

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Recommended Gartner Research

- **Magic Quadrant for Data Science and machine learning Platforms**
  Carlie J. Idoine, Peter Krensky and Others (G00326456)
- **Hype Cycle for Data Science and Machine Learning, 2017**
  Peter Krensky and Jim Hare (G00325005)
- **Machine Learning: FAQ From Clients**
  Shubhangi Vashisth, Alexander Linden and Others (G00327948)
- **Deep Learning Enables a Quantum Leap in Content Processing**
  Alexander Linden (G00327965)
- **Innovation Insight for Deep Learning**
  Alexander Linden, Tom Austin and Svetlana Sicular (G00319191)

For information, please contact your Gartner representative.

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