The Power of AI



Aug 2022

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Our Manifesto

OUR VISION

We are **passionately** committed to the pursuit of a ***better world*** through **POSITIVE CHANGE**

OUR MISSION

TOGETHER we create **unprecedented** outcomes for our clients by **partnering with them** to develop **better ideas.**

Our ***exceptional, diverse teams*** combine vast engineering and business knowledge, applying them to the **world's toughest challenges.**

We build practical **SOLUTIONS** that are **SAFE, INNOVATIVE, & sustainable.**

OUR VALUES

We believe in exceptional ideas delivered with exceptional service.

DOING OUR **homework**

INNOVATING all that we do

Engaging great people who make a **difference**

Acting *like* **OWNERS**

Encouraging a **flat, connected organization**

Achieving **NO** harm

ENSURING **cost** effective, efficient **delivery**

Thinking **globally**; acting **locally**

Being unconditionally **HONEST**

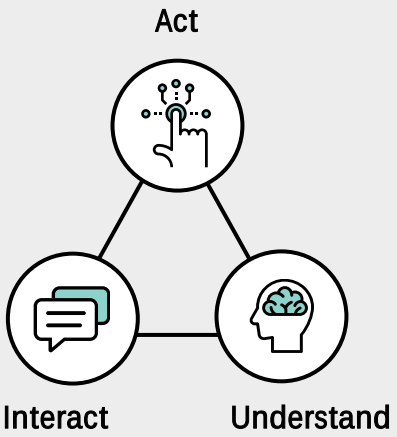
nurturing long-term relationships

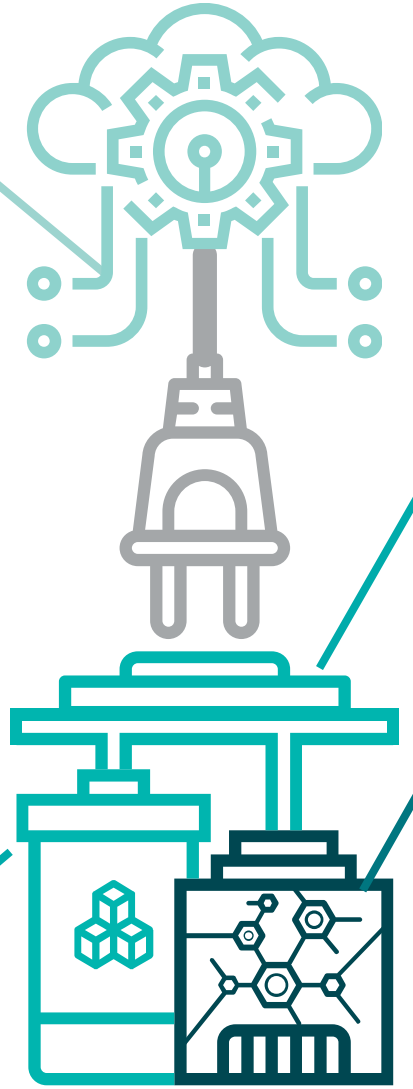
Living our **commitments** with *integrity*

What is AI?

Artificial Intelligence

Programs that can interact, act, and understand (like a human)





Machine Learning

Algorithms that improve over time through exposure to more data

Deep Learning

Subset of Machine Learning that uses neural networks with massive amounts of data to learn

Reinforcement learning

how intelligent agents ought to take actions in an environment in order to maximize the notion of cumulative reward

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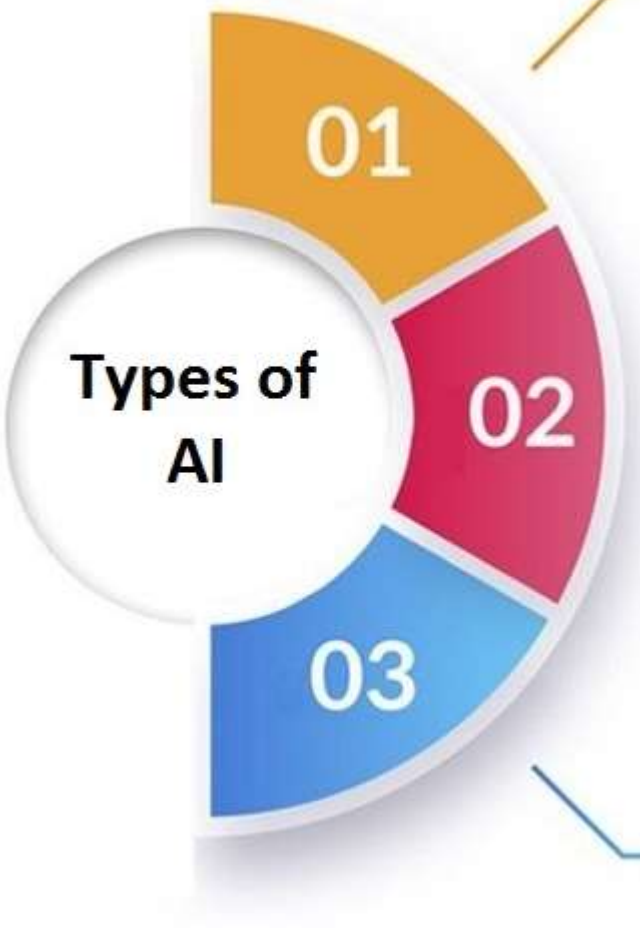
Types of AI



Artificial Narrow Intelligence(ANI)

A Machine that can perform a single task extremely well, even better than humans.

Artificial General Intelligence(AGI)

A Machine that can think and function (act, interact, understand) as humans.

Artificial Super Intelligence(ASI)

A Machine that can perform any task (practically in every field) better than humans.

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Applications of AI

- Healthcare
- Automotive
- Finance
- Surveillance
- Social Media
- Entertainment
- E-commerce

- Education
- Industrial
- Space Exp.
- Gaming
- Robotic
- Agriculture
- Energy

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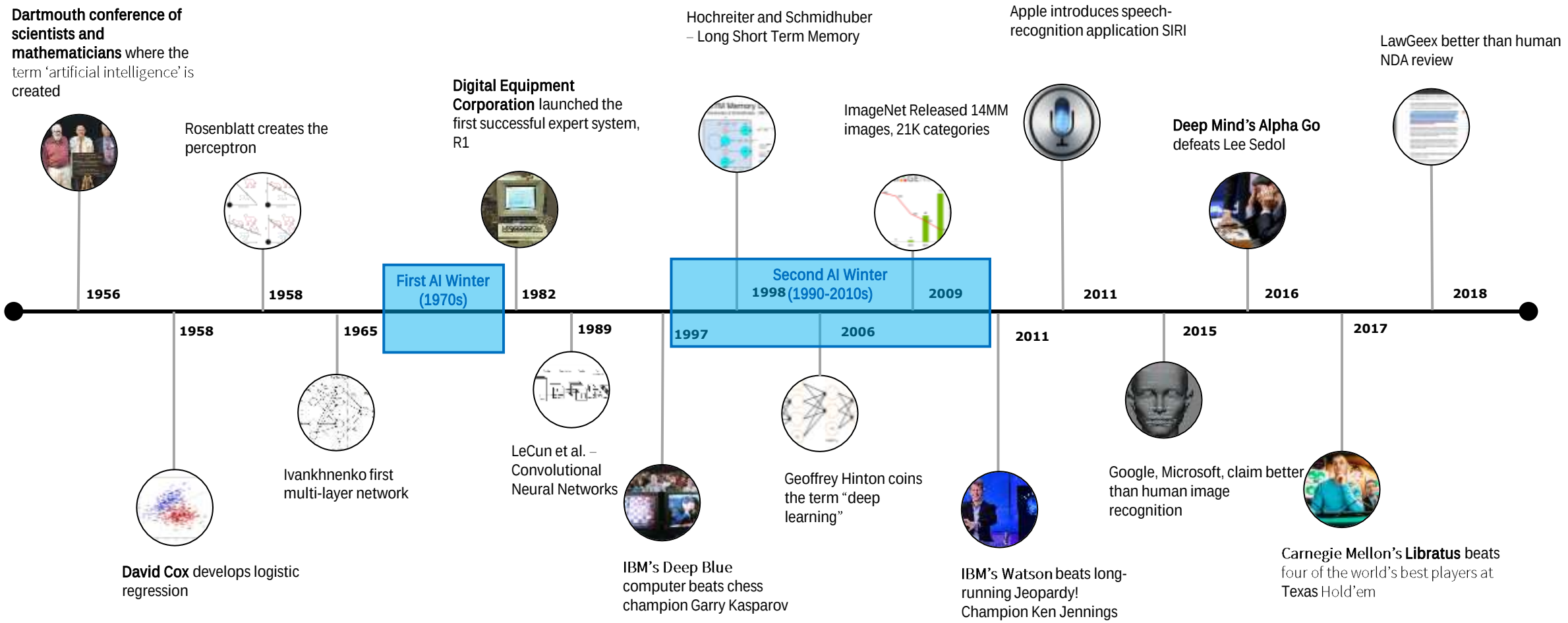
AI has been around for a very long time



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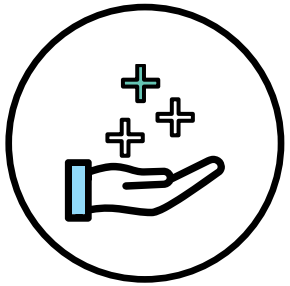
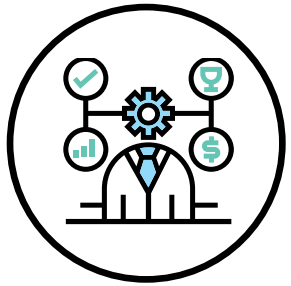
AI: Why now?



Accessible **data** through various digital channels

Cloud providers that democratize **algorithms**, **storage** and **processing power**



Academic labs that are increasing a focus on enterprise **applications**

The rise and growth of **data-driven business models** disrupting existing industries (Amazon, Uber, Netflix)

So – What's going on?

When it comes to AI and Advanced Analytics, organizations struggle to move from experimentation to implementation due to several gaps.

Undefined Roles and Responsibilities

Data Scientists who think their job is only to build models

Lack of AI Education

Businesspeople who can't come up with proper AI questions and who think that smart weirdo with the PhD will figure it out

Death by Proof of Concept

Trying to prove that math works vs math is useful, ignoring the "last mile"

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Why is upskilling on AI and Analytics an imperative?

When it comes to AI and Advanced Analytics, organizations struggle to move from experimentation to implementation due to several gaps*.

Lack of Understanding

4%

of Canadians reported they were confident explaining what AI is and how it works.

Inability to Act on Insights

58%

Of respondents report challenges in acting on insights from enterprise data.

Inability to Scale

16%

Of all business reported using AI technologies over the past year – a number that has not budged since 2016.

*Survey done by Deloitte

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Lessons Learned in Delivering AI & Analytics Programs

Large, established organizations across industries are struggling to realize value from their AI & Analytics programs. These are some of the common themes we currently see with our clients.

Business Alignment

Organizations struggle to engage with the business to define impactful use cases that stakeholder can truly understand and deploy. Use cases are often left on the shelf.

Siloed Data Sources

Data tends to be in **separate siloed systems** that were not originally designed to be used for AI & Analytics. There is a general lack of awareness of available data Analytics tends to be tactical vs. enterprise.

Infrastructure Constraints

Data lakes were meant to enable AI by solving for infrastructure challenges related to disparate systems, however most organizations are on their **2nd or 3rd iterations** without minimal value to show

Shiny Objects

Most organizations are too focused on the exciting new data science techniques like deep learning; in reality the biggest benefits are often from established techniques informed by business context

PoC's vs. Production

Operationalization is the **"last mile"** or transformation of insights into actions. While organizations conduct **many proofs of concept** very few AI & Analytics projects go into production and implemented

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A Way Forward

The technical issues make AI hard, but in my experience for many there are equally critical issues related to proper processes and approaches

Some tools/ approaches I have used successfully

Educate executives so they ask for better use cases (not another report).

Introduce proper data governance to break down the data silos.

Consider Cloud.

Multi-disciplinary teams: Data scientists are really, really good at one thing.

Expand your delivery approach beyond model building.

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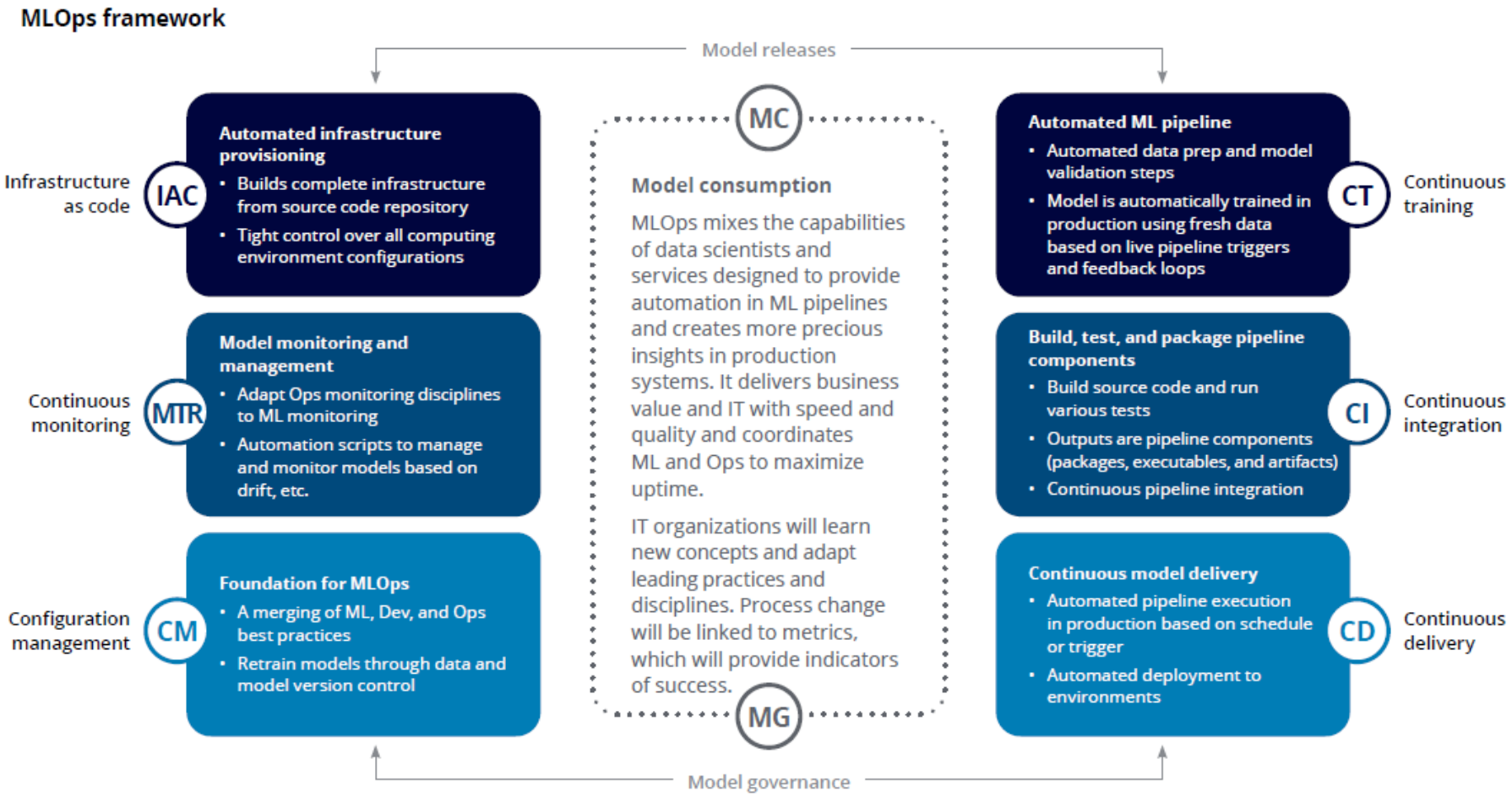
Path to Production - MLOps



To sustain impact and outcomes, there needs to be an adjustment of operating models and pull-through of a service catalog of AI solutions through the continuum of Applied AI and Managed AI.

Source: ML-Oops to MLOPs, A report by Deloitte AI Institute, Machine Learning Operations for Business | Deloitte US

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Thank you.

For more information,
please visit www.hatch.com