Introduction to AI and the AI Ladder: Summary/Review

AI is the new electricity

AI is one of the greatest challenges and opportunities of our time. It is poised to change the way people work, to change how enterprises operate, and to transform entire industries. AI initiatives offer cost savings while helping organizations predict and shape future outcomes. They do this through automating routine tasks and augmenting human intelligence to allow us to work on more significant responsibilities.

But AI is not magic, instead it is a series of software and data engineering techniques for making sense out of a vast amount of data. In order for AI software to learn the information it needs to know to help humans analyze information and make decisions, it must be trained using the data that it needs, making data the foundation and fuel for AI.

Fundamentals of AI

The following key terms and definitions are important to understand the information in this course:

1. **Artificial intelligence** is the field of building computer programs to perform tasks that typically require human intelligence including visual recognition, speech recognition, language processing and decision making.
2. **Machine learning** is the field of building models to classify and make predictions from data.
3. **Deep learning** is the field of building models to unsupervised models from unclassified data to make decisions through an artificial neural network.

A brief explanation of AI

At the enterprise level, AI is a tool to improving human decision making, at speed and scale, and has the potential to augment the work of every employee. AI accomplishes this by improving predictions, automation, and optimization of time and resources to drive better decisions and improve business outcomes.

1. **Predictions** - Organizations want to be able to forecast what's going to happen in their business, at both the macro and micro level.
2. **Automation** - By automating critical, yet time-consuming, business processes that are often done manually, employees are free to focus on higher-value, more creative work. According to Gartner, AI augmentation will recover 6.2 billion hours of worker productivity in 2021.
3. **Optimization** - Whether this means optimizing routing and logistics, marketing spending, or the configuration of the client's cloud installation, AI is a tool for improving human decision-making at speed and scale and has the potential to augment the work of every employee.

The AI Opportunity

The influence of AI will become larger as AI becomes increasingly embedded in other applications and workflows, including analytics tools. According to the IDC Worldwide Spending Guide on Cognitive and AI Systems, AI software spending will grow 43 percent to reach USD 31 billion by 2022, yet only 20 percent of analytic insights will deliver business outcomes. Data science and machine learning surveys often indicate that less than 50 percent of data science and machine learning analytic assets are deployed in production.

Companies will have to be able to connect their data to AI in order to deliver smarter business outcomes. To successfully bring the power of AI into a business, companies will have to rethink how to build solutions that utilize AI technology.

How will AI impact organizations?

Data is the foundation and fuel for businesses to drive smarter decisions, particularly as they embark upon digital transformations. The problem is that while 90 percent of business leaders list improving the use of data as a top priority, only 15 percent of them are actually getting what they need from their data (Source: IBM Data 2020; The State of Big Data, 2017). As a result, the majority of businesses have a plan to build a system of insights to become data driven and have declared the journey to AI as a strategic priority.

However, organizations still struggle to understand and execute on the steps they need to take to advance their AI agenda.

Modernize your Information Architecture (IA)

There is no AI without IA

"Modernize," in this context, means building an information architecture for AI that provides choice and flexibility across the organization. To meet today's demands and to stay competitive tomorrow, organizations need an efficient, agile architecture for their data that they can reliably build on. Enter hybrid, multicloud platforms.

Hybrid, multicloud platforms are the future of data architecture. A hybrid, multicloud platform allows organizations to take advantage of their data and applications across any cloud (public, private, on- premises) via containers. As enterprises modernize for an AI and multicloud world, they will find there is less "assembly required" in expanding the impact of AI across the organization.

The AI Ladder

The challenge to begin the journey to build AI solutions can seem daunting, but there is a prescriptive approach to accelerate the journey to AI, called the AI ladder. The AI Ladder will help your business overcome challenges and drive digital transformation in your business, no matter where you are on your journey. The AI ladder helps you evaluate your organization's readiness for AI and provides you with a series of steps on how to reach your AI goals. It's important to note that readying an organization for AI isn't a linear journey. Knowing the steps of the ladder helps you identify where your organization is strong and where your gaps are.

It includes the following steps:

Step 1: Collect - Make data simple and accessible. Collect data, regardless of where it lives, enabling flexibility with constantly changing data sources.

Step 2: Organize - Create a business-ready analytics foundation. Organize your data into a trusted, business-ready foundation with governance, protection, and compliance built in.

Step 3: Analyze – Build and scale AI with trust and transparency. Analyze your organization's data by using AI models that empower your team to gain new insights, make smart decisions, and scale with trust and transparency.

Step 4: Infuse – Operationalize AI throughout the business. Leverage AI throughout your business, across multiple departments and within various processes, by putting AI to work to draw on predictions, automation, and

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