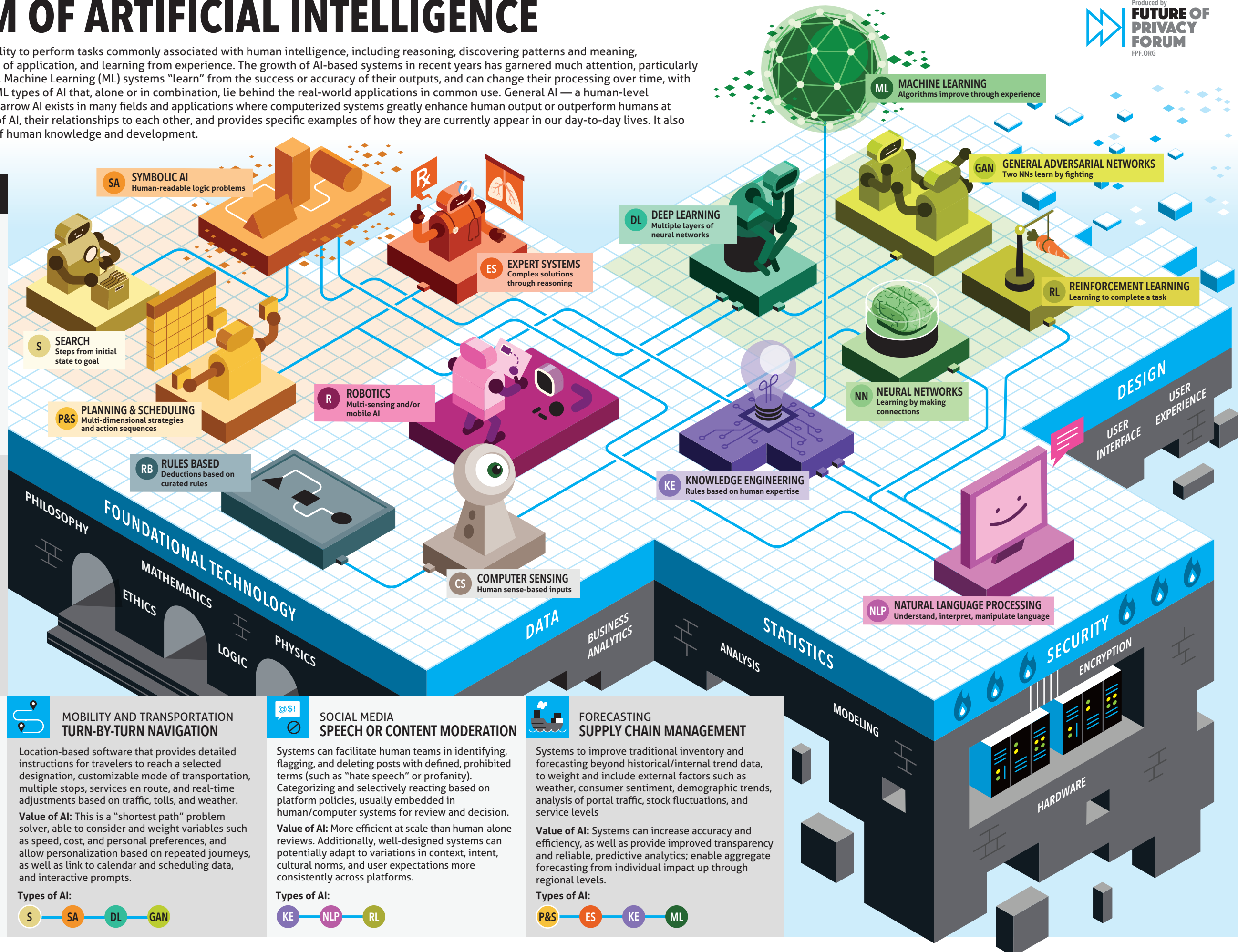


# THE SPECTRUM OF ARTIFICIAL INTELLIGENCE

Artificial Intelligence (AI) is the computerized ability to perform tasks commonly associated with human intelligence, including reasoning, discovering patterns and meaning, generalizing, applying knowledge across spheres of application, and learning from experience. The growth of AI-based systems in recent years has garnered much attention, particularly in the sphere of Machine Learning. A subset of AI, Machine Learning (ML) systems "learn" from the success or accuracy of their outputs, and can change their processing over time, with minimal human intervention. But there are non-ML types of AI that, alone or in combination, lie behind the real-world applications in common use. General AI — a human-level computational system — does not yet exist. But Narrow AI exists in many fields and applications where computerized systems greatly enhance human output or outperform humans at defined tasks. This chart explains the main types of AI, their relationships to each other, and provides specific examples of how they are currently appear in our day-to-day lives. It also demonstrates how AI exists within the timeline of human knowledge and development.



## AI USE CASES AND CONTEXTS

**FINANCE TAX COMPLIANCE**

A software platform that distills tax laws into a program, creates a personalized decision system, and enables individuals to quickly and accurately file their taxes.

**Value of AI:** Tax compliance requires complete accuracy. This efficient, interactive system that provides precise and logically connected results allows taxpayers to understand, confirm, and have confidence in the outcome. KE provides transparent and clear explanations.

**Types of AI:** KE, NN, NLP

**HEALTHCARE AMBIENT CHARTING**

The use of background voice-to-text processing during a patient/medical provider exchange to record those interactions into the patient's chart, along with extracting tasks, symptoms, and recommendations for further action as required.

**Value of AI:** Medical providers spend significant time documenting, with uneven outputs, as well as difficulty in correlating between providers. Ambient systems encode conversations, target key phrases, and present a summary for provider edit/acceptance.

**Types of AI:** SA, DL, NLP

**TRACKING WORKPLACE MONITORING**

Embedded systems can monitor physical and digital traffic, data usage, device management, and some employee behaviors for efficiency and security management of time, assets, and resources.

**Value of AI:** Monitoring enables necessary enforcement of data security policies and protocols. Also, systems can monitor and manage time reporting and project management tools, as well as ensuring appropriate supervision, training, and support, including for remote workers

**Types of AI:** RB, CS, NN

**MOBILITY AND TRANSPORTATION TURN-BY-TURN NAVIGATION**

Location-based software that provides detailed instructions for travelers to reach a selected destination, customizable mode of transportation, multiple stops, services en route, and real-time adjustments based on traffic, tolls, and weather.

**Value of AI:** This is a "shortest path" problem solver, able to consider and weight variables such as speed, cost, and personal preferences, and allow personalization based on repeated journeys, as well as link to calendar and scheduling data, and interactive prompts.

**Types of AI:** S, SA, DL, GAN

**SOCIAL MEDIA SPEECH OR CONTENT MODERATION**

Systems can facilitate human teams in identifying, flagging, and deleting posts with defined, prohibited terms (such as "hate speech" or profanity). Categorizing and selectively reacting based on platform policies, usually embedded in human/computer systems for review and decision.

**Value of AI:** More efficient at scale than human-alone reviews. Additionally, well-designed systems can potentially adapt to variations in context, intent, cultural norms, and user expectations more consistently across platforms.

**Types of AI:** KE, NLP, RL

**FORECASTING SUPPLY CHAIN MANAGEMENT**

Systems to improve traditional inventory and forecasting beyond historical/internal trend data, to weight and include external factors such as weather, consumer sentiment, demographic trends, analysis of portal traffic, stock fluctuations, and service levels

**Value of AI:** Systems can increase accuracy and efficiency, as well as provide improved transparency and reliable, predictive analytics; enable aggregate forecasting from individual impact up through regional levels.

**Types of AI:** P&S, ES, KE, ML