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Four Gifts from AI's Founders

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Abstract

Marvin Minsky, Claude Shannon, Allen Newell, and Herbert Simon were four of eleven participants at the 1956 Dartmouth Conference, where the field of Artificial Intelligence was named. Each of these pioneering researchers helped lay the foundation for future AI research. Four of their seminal ideas are: 1) Society of Mind (Minsky), 2) Information Theory (Shannon), 3) Problem-Solving Theory (Newell & Simon), and 4) Bounded Rationality (Simon). Society of Mind contains a hidden blueprint for developing safe, SuperIntelligent AGI. Information Theory helps us identify the datasets that can best catalyze the growth of intelligent systems. Problem-Solving Theory explains how AI agents can communicate effectively and how we can increase the safety of AGI. Finally, Bounded Rationality illuminates the type of SuperIntelligence we might expect in the future and how humans might remain relevant when SuperIntelligent AI becomes vastly more intelligent than us.