

Generative AI

Use Cases

AI is a general purpose technology

- Useful for many things.

Tasks LLMs can do

- Writing.
- Answering questions.
- Reading.
- Conversation.

Writing

- Brainstorming.
- Content.
- Translation.

Reading

- Proofreading.
- Summarizing.
- Analysis.

Conversation

- Interact with humans.
- Interact with software applications.
- Range of possibilities:
 - Humans only.
 - Chatbot support humans (human-in-the-loop).
 - Chatbot triages messages for humans: responds the simplest ones, escalates the rest.
 - Chatbot only.

Types of Generative AI Apps

- Generative AI Apps with a user interface.
- Part of a bigger software application.

Industries

- Software Development.
- Customer Service.
- Sales.
- Marketing.
- Media and Entertainment.
- Education.
- Healthcare.
- Legal.
- Finance.
- Public Administration.
- Automotive.
- Biotechnology.
- Energy.
- Research.

Software Development

- Solved problems:
 - Code learning.
 - Problem solving.
 - Code creation.
 - Code review.
- Real Cases: ChatGPT-4, Github Copilot, etc.

Customer Service

- Solved problems:
 - Answer questions about products and services.
 - Solve customer problems.
- Real Case: Google's chatbot answers questions about products and services. It can also help customers with issues like creating or setting up an account.

Sales

- Solved problems:
 - Qualify leads.
 - Generate sales proposals.
 - Close business deals.
- Real Case: SalesLoft uses LLM Applications to qualify leads, generate personalized sales proposals, track customer engagement, and measure the effectiveness of sales campaigns.

Marketing

- Solved problems:
 - Creation of personalized content like emails and social media posts.
- Real Case: Phrasee uses LLM Applications to personalize subject lines and the body of marketing emails.

Media and Entertainment

- Solved problems:
 - Generation of creative content for scripts, poems, and code.
- Real Case: OpenAI has created a range of LLM models that create text, translate languages, create different types of creative content, and answer questions.

Education

- Solved problems:
 - Create personalized learning experiences for students.
- Real Case: Knewton uses LLM Applications to generate custom problems and tests for their students, to grade student work and provide feedback.

Healthcare

- Solved problems:
 - Analyze medical histories.
 - Assist in diagnosing health problems.
- Real Case: Babylon uses LLM Applications to analyze patient symptoms, provide preliminary diagnoses, and to generate personalized treatment plans.

Legal

- Solved problems:
 - Analyze legal documents.
 - Assist lawyers in their research work.
- Real Case: Lex Machina uses LLM Applications to analyze court rulings, identify legal precedents, and to generate legal reports and contracts.

Finance

- Solved problems:
 - Analyze financial data.
 - Make investment predictions.
- Real Case: Kensho uses LLM Applications to analyze financial news and data to identify investment opportunities, and to generate investment reports and recommendations for investors.

Public Administration

- Solved problems:
 - Analyze public documents.
 - Analyze citizen sentiment.
 - Improve citizen engagement.
- Real Case: Palantir uses LLM Applications to analyze Public Administration data, identify potential risks and threats, track the mood of citizens, and measure the effectiveness of public programs.

Automotive

- Solved problems:
 - Improve systems of autonomous vehicles.
 - Improve voice assistants.
 - Streamline the manufacturing process.
- Potential Example: programming periodic vehicle maintenance.
 - Management of the maintenance calendar.
 - Analysis of maintenance history.
 - Initial diagnosis of problems.

Biotechnology

- Solved problems:
 - Protein design.
 - Research for new drugs.
 - Bioinformatics research.
 - Accelerating biotech advances.
- Potential Example: DNA sequence analysis.
 - Analysis and interpretation of results.
 - Analysis of genetic data and study methods.

Energy

- Solved problems:
 - Optimize energy consumption.
 - Predictive maintenance in energy production companies.
 - Streamline operations in the energy sector.
- Potential Example: smart meter.
 - Analysis of energy consumption data.

Research

- Solved problems:
 - Analysis of large databases.
 - Identification of patterns and trends.
- Real Case: Google AI has created an LLM model that can be used to identify entities and relationships in text, generate hypotheses, and test new ideas.