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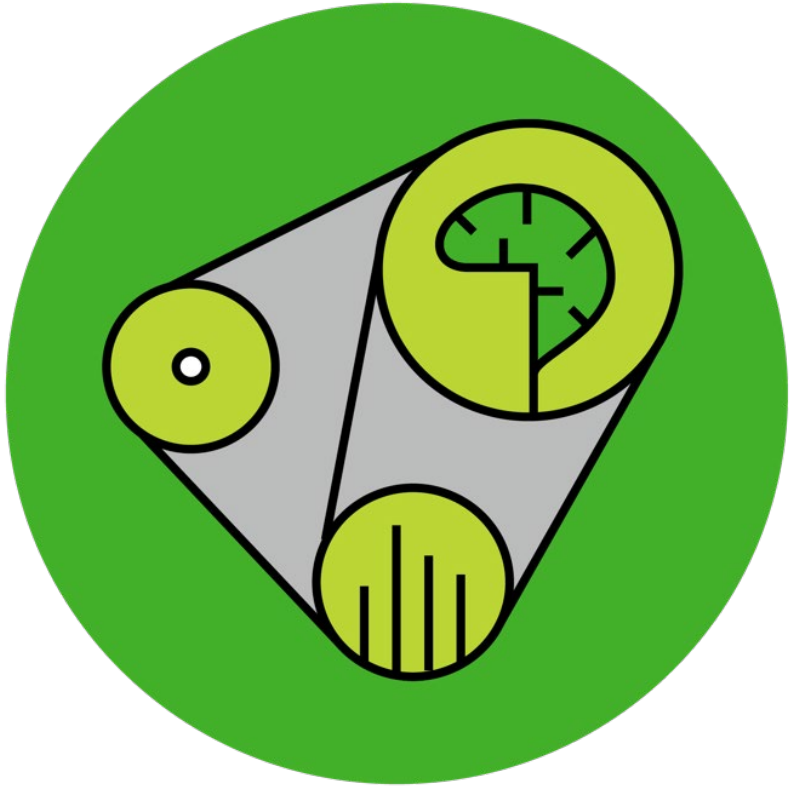


AI Guild | GenAI Practicum

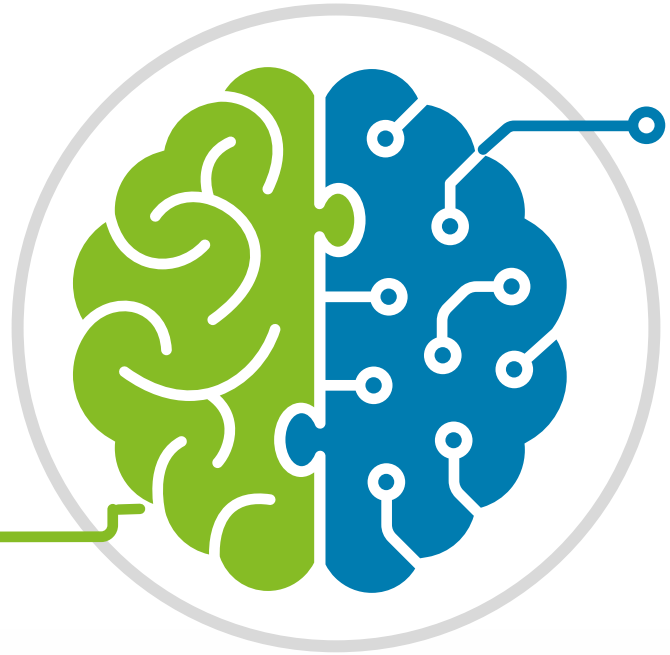
Session 6: Industry Use Cases

Week Agenda

Topic	Content
01 Introduction	• Considerations for Use Case Development
02 Lab 1	• Use Case Identification
03 Lab 2	• Use Case Elaboration

Learning objectives

By the end of session, you should be able to



01 Identify and explain a variety of Use Cases for GenAI

02 Understand and deeply explain a specific Use Case

GenAI Use Cases

Things to Consider when Drafting Use Cases

GenAI Use Cases

There are several things to consider when drafting GenAI use cases.

These include:

- Industry
- Business Model
- Possible Uses for GenAI
- Usefulness and Effectiveness of GenAI use
- Legislative and Policy Implications
- Market Activation, Issue, Opportunity
- Ethical AI
- Trustworthy AI
- Data Implications

Industries for Use Cases

GenAI Use Cases

The GenAI Dossier provides a selection of high-impact use cases across six major industries.

These include:

- Consumer (Consumer Products, Retail, Automotive, Lodging, Restaurants, Travel, and Transportation)
- Energy, Resources and Industrials
- Financial Services
- Government and Public Services
- Life Sciences and Health Care
- Technology, Media and Telecommunications

Lab 1: Identify Use Cases

- 45 Minutes
- Form groups of 3-5 people
- Select a breakout room
- Identify and discuss several Industry Use Cases (15 minutes)
- Outline Use Cases for class (3-5 minutes per group)

Break (10 mins)

Lab 2: Elaborate Use Case

- 60 Minutes
- Form different groups of 3-5 people
- Select a breakout room (Remember your group and room for next week)
- Elaborate a specific Industry Use Case (10 mins)
- Build a 3-5 slide deck for a 5-8-minute presentation (10 mins)
- Create a 30-45 second Elevator Pitch summary (5 mins)
- All Groups Pitch to class then vote on which two to see (10 mins)
- Two groups present to class (8-10 minutes each)

Session Takeaways

Share key Takeaways

01 GenAI has application in every industry

02 There are many diverse uses for GenAI

03 With a little creativity, we can identify GenAI Use Cases that will be of value to our clients

Q & A

Appendix A – Sample Use Cases

Consumer

Consumer Products, Retail, Automotive, Lodging, Restaurants, Travel, and Transportation

Industry Use Cases – Consumer

Consumer Use Cases

GenAI is impacting several fields at present, with more uses coming soon. These include:

- Content Generation
- Reimagined Trade Promotions
- Rapid Prototyping
- Artificial Model Agency
- Data-Empowered Business Users
- Virtual Try-On
- Customer Assistant
- Product Recommendations
- Market Research

Content Generation

Consumer Use Cases

Generative AI can be used to enable the creation of efficient, consistent, and personalized content across a range of modalities.

Issue/opportunity

Companies face a significant challenge in managing and optimizing marketing content. With hundreds of websites for brand portfolios, each in dozens of languages, companies struggle to allocate enough time and resources to create customer group-specific product descriptions, images, video, and even audio. Enterprises also wrestle with consistency across descriptions, imagery, ads, and other media, and the materials may not always be optimized for the necessary purposes (e.g., product descriptions for search versus e-mail). Companies need a method to provide a seamless and personalized brand experience across different ecosystems and touchpoints.

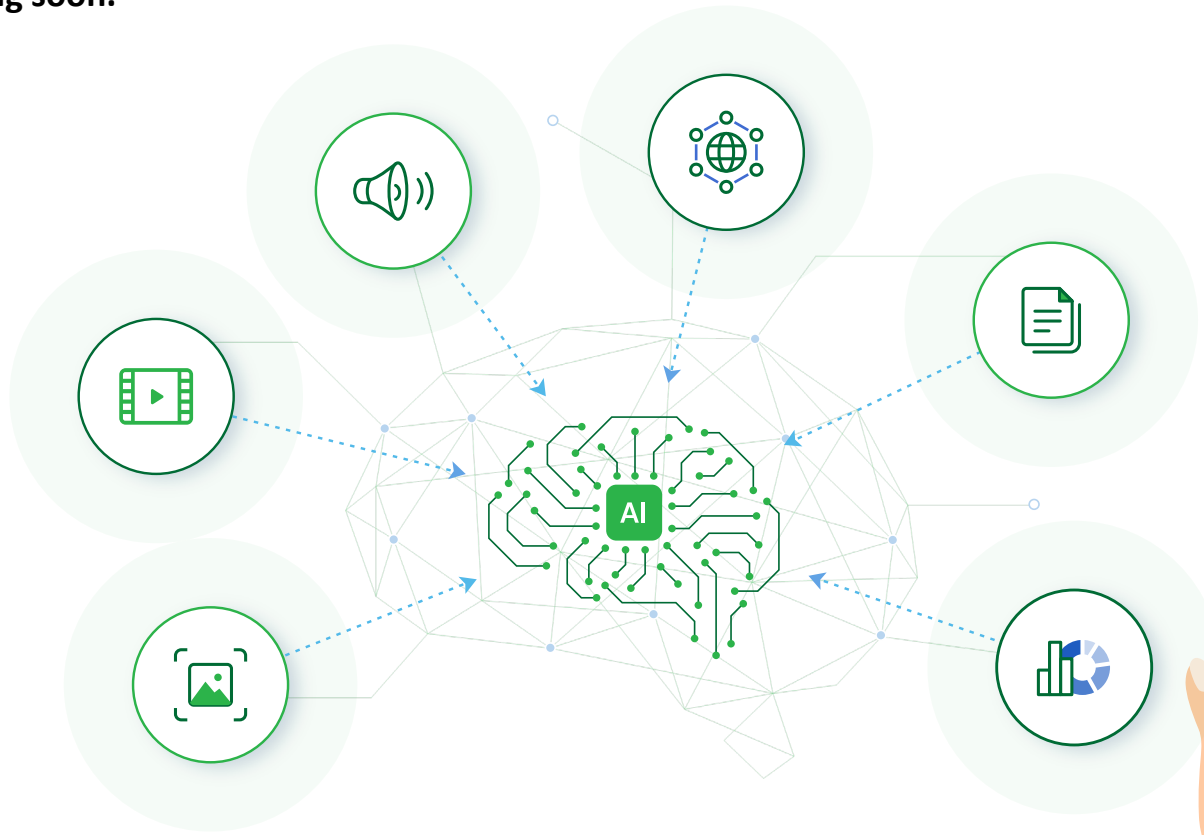
Energy, Resources, and Industrials

Industry Use Cases – ER&I

ER&I Use Cases

GenAI is impacting several fields at present, with more uses coming soon. These include:

- Asset Maintenance Planning
- Materials Design
- Minerals Processing Optimization
- Site Design Generation
- Virtual Field Assistant
- Personalized OHS Training
- Hydrocarbon Reservoir Exploration
- Smart Summaries for Drone Surveying
- Supply Chain Optimization
- Grid and Energy Efficiency Optimization



Smart Summaries for Drone Surveying

ER&I Use Cases

Generative AI can assist in summarizing large volumes of drone footage and enable querying to enhance productivity and efficiency.

Issue/opportunity

In the mining industry, drones are increasingly used for tasks such as mapping, tailings dam management, safety management, blast assessment, environmental monitoring, and haul road optimization. In the case of Optical Gas Imaging (OGI) to detect gasses and volatile organic compounds leaking from vessels (e.g., pipelines), unmanned drones mounted with OGI cameras have proven useful for surveying a variety of equipment over vast areas. Using drones in this way permits frequent scans and reduced costs associated with fugitive gases. Yet, while advanced AI solutions (e.g., volumetric monitoring) have been developed for applications using drone footage, manual inspection of drone footage is still required for environmental monitoring, security review, safety assessment, and retrospective analysis.

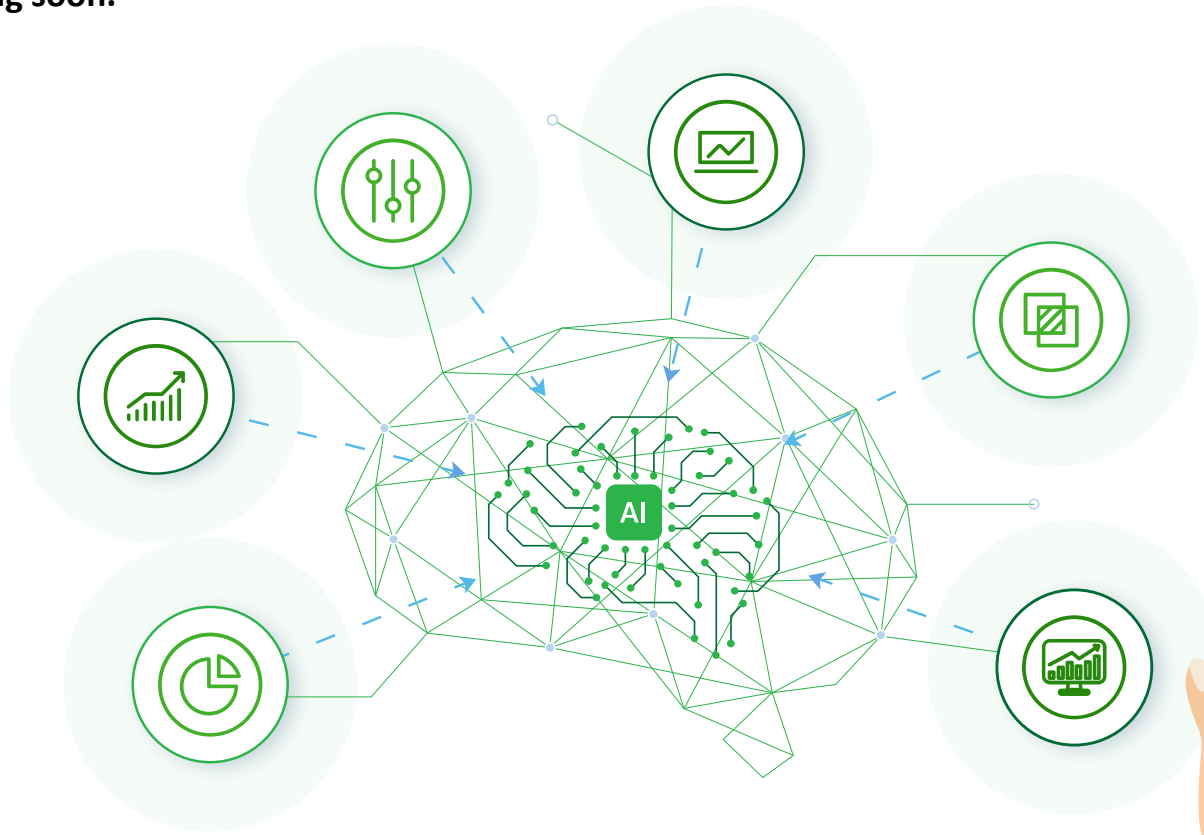
Financial Services

Industry Use Cases – Financial Services

FSI Use Cases

GenAI is impacting several fields at present, with more uses coming soon. These include:

- Code Assistant for Digital Transformation
- Enterprise-wide Data Search and Access
- Synthetic Data Generation
- Research-Based Report Generation
- Financial Guardians
- Hyper-personalized Sales and Marketing Assistant
- Automated Claims Reporting
- VR-Enabled Retail Banking Centers
- Predictive Trading Algorithms
- Real-time Risk Management



Synthetic Data Generation

FSI Use Cases

Generate synthetic data for model training, anomaly detection, and identifying cyber and deception attacks.

Issue/opportunity

Missing data is a significant challenge for FSI organizations. Datasets may be incomplete, data transfers may be restricted, and potential anomalies are underrepresented in the data. Using synthetic data can help overcome these challenges. In cloud transformation, data transferals may be delayed due to the risks associated or regulations around data governance, and using synthetic data first enables a smoother and more efficient transformation. Meanwhile, machine learning anomaly detection systems (such as for identifying fraud, waste, and abuse) are trained on data from previous events. Their rarity and the dearth of data around them can make anomalies harder to assess.

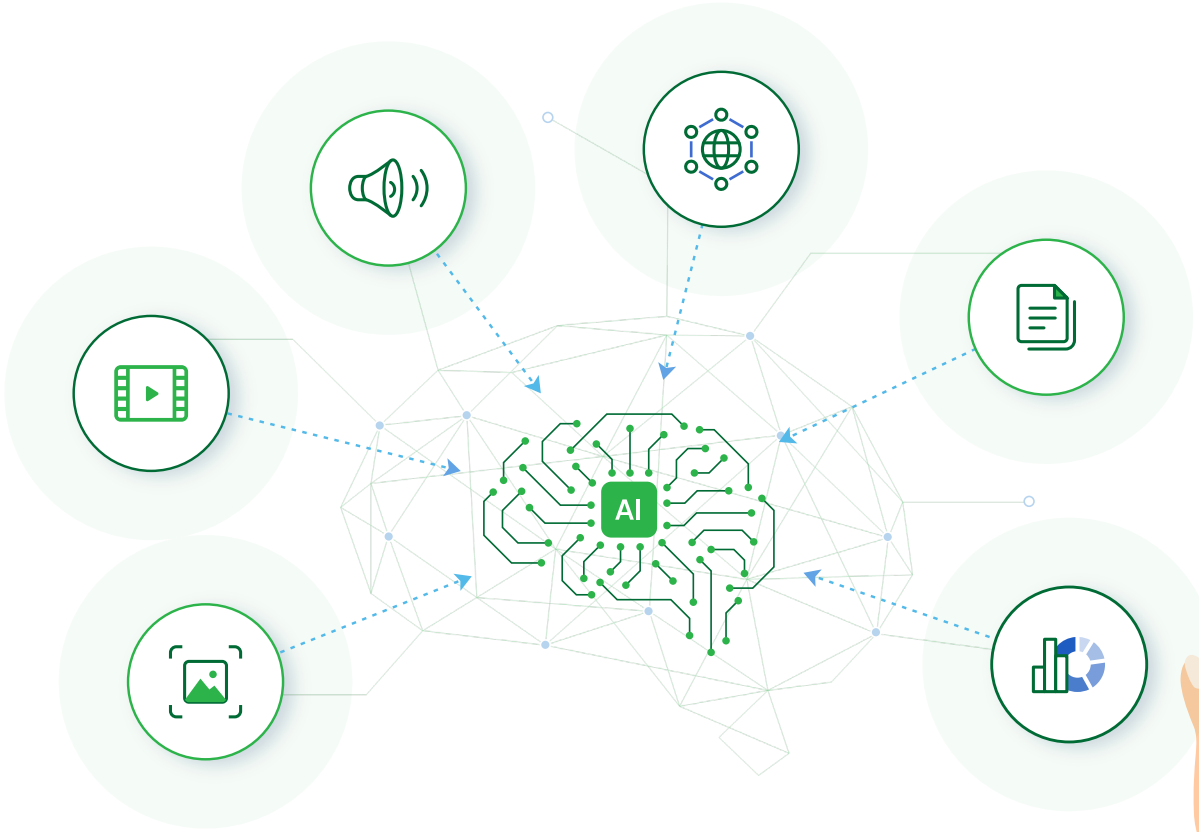
Government and Public Services

Industry Use Cases – GPS

GPS Use Cases

GenAI is impacting several fields at present, with more uses coming soon. These include:

- Open-source Intelligence Reporting
- Citizen Engagement
- Knowledge Management
- Urban Planning/Future of Cities
- Hyper-Personalized Education
- Policy Creation Assistant
- Procurement
- Case Management/Human Services
- Multilingual Service Delivery
- Summarizing Legislative Documents



Summarizing Legislative Documents

GPS Use Cases

Generative AI can help legislative staff more rapidly transcribe and summarize hearings, legislation, documents, and official announcements.

Issue/opportunity

Legislative offices are expected to hold hearings on important topics, respond to constituents, and make public announcements in the form of press releases. Manually transcribing hearings and meetings is a time-consuming task. Further, developing new legislation (where staff play a pivotal role in research) requires sifting through voluminous policy proposals and research published by experts.

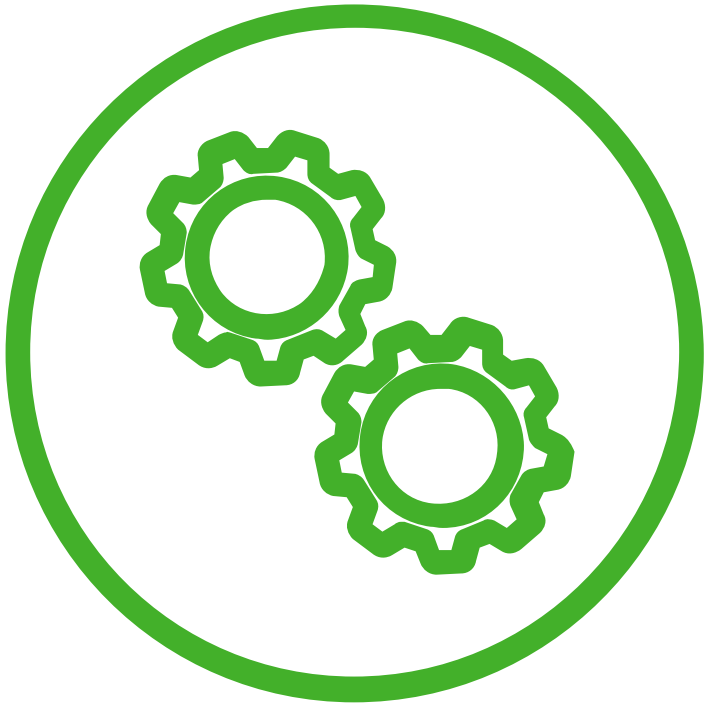
Life Sciences and Health Care

Industry Use Cases – LSHC

LSHC Use Cases

GenAI is impacting several fields at present, with more uses coming soon. These include:

- Denial Appeal Letters
- Accelerated Prior Authorization
- Medical Coding
- Claims Assistant
- Provider Message Management
- New Drug Discovery/Generation
- Knowledge Domain Model Development
- Experimental Design
- Automated Regulatory Compliance
- Demand Forecasting & Price Optimization
- Medical Imaging
- Disease Detection and Diagnosis
- Clinical Documentation
- Training and Testing



New Drug Discovery/Generation

LSHC Use Cases

Generative AI can be used to model the structure and function of proteins and biomolecules, accelerating the identification and validation of molecules and the creation of new drug candidates.

Issue/opportunity

Despite advancements in medical treatments, numerous diseases still lack effective solutions due to the complex, costly, and time-consuming process of drug discovery and verification. The challenge of drug development lies not just in discovering potential treatments but also in the rigorous verification of their effectiveness, a process that is both costly and time-consuming. Compounding these issues are the unique complexities of clinical trials, which need to account for diverse populations, varied interactions with other treatments, and potential side effects. Furthermore, the rarity of some diseases creates additional hurdles due to limited data from fewer patients, making the development even more challenging.

Medical Imaging, Disease Detection, and Diagnosis

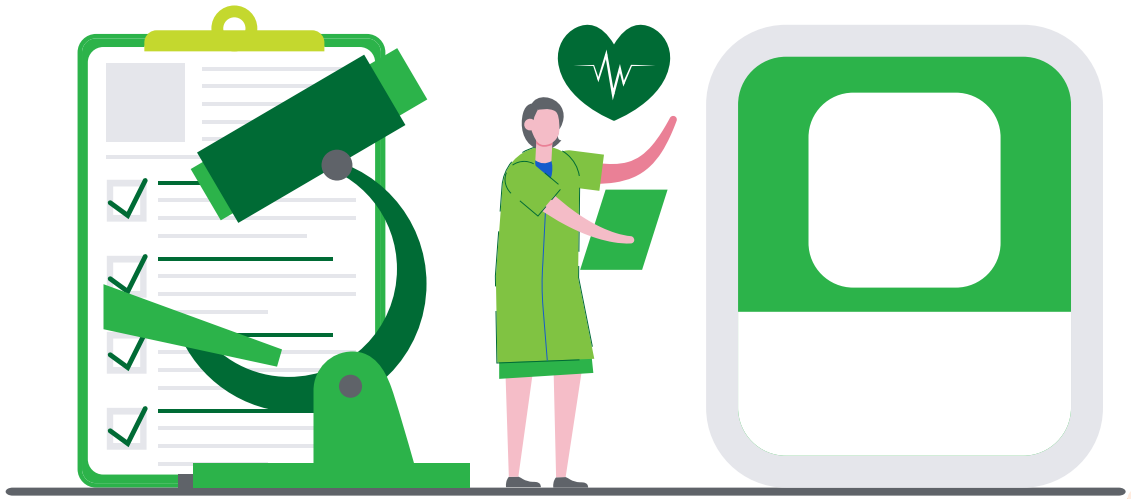
LSHC Use Cases

AI analysis caught 13% more breast cancers than radiologists in a study of 25,000 mammograms, proving it's an effective safety net.

The AI tool called Mia spotted cancers radiologists missed, demonstrating it complements human expertise. The research let radiologists use the tool in three different ways, resulting in 5%, 10% and 13% more detections. The additional flags identified invasive cancers that are likely to spread, i.e. it has life-saving potential.

AI also made the diagnosis process 45% faster. Mia is being used at 16 hospitals in the UK and is being rolled out in the US.

Source: Ben's Bites referring to Financial Times article



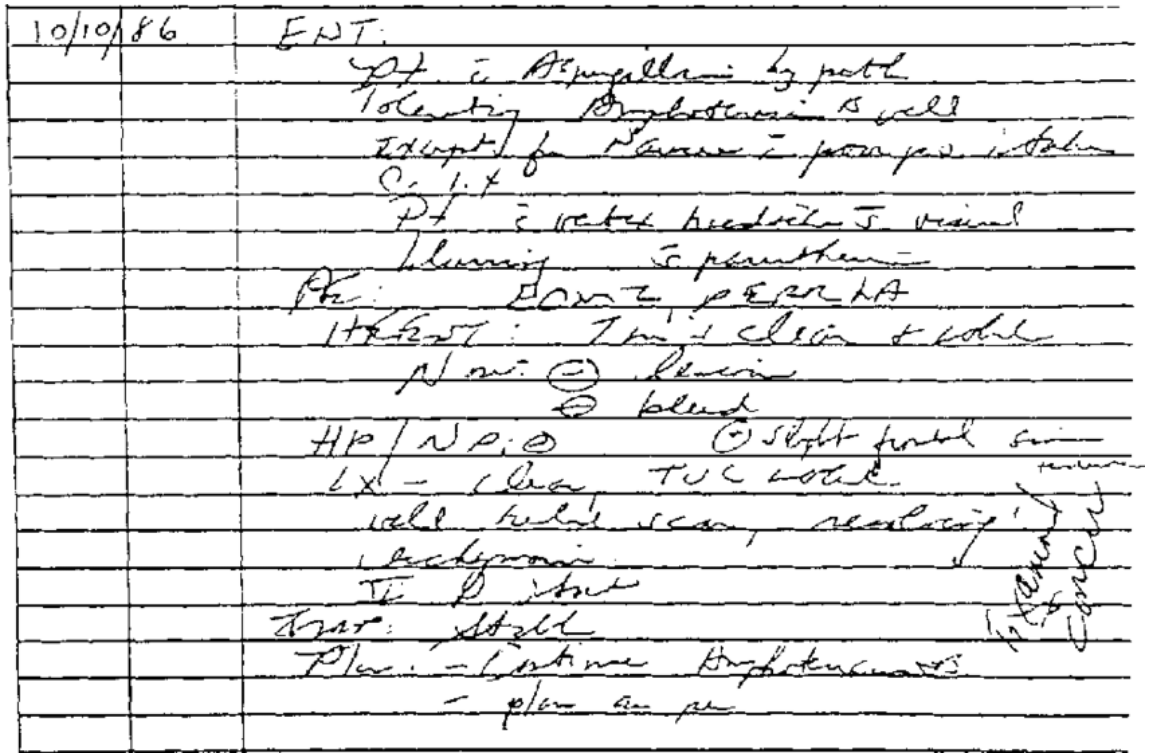
Clinical Documentation

LSHC Use Cases

Many doctors dictate their notes. But a lot of those dictations are then transcribed by humans, a costly and labor-intensive process. Similarly, a lot of hand-written medical notes are also transcribed by humans. With medically trained GenAI models, medical transcriptions can be fully automated. GenAI can also go a step further by reviewing a patient's medical history to identify anomalies, tag potential drug interactions, and recommend treatment plans.

Abridge, Nuance DAX, and Nabla Copilot, for example, can capture audio during an appointment and then write up notes for the doctor to review. Already, apps like Glass Health can analyze a patient summary and suggest diagnoses for the doctor to consider.

Source: High-quality Healthcare/Medical Data. https://www.shaip.com/healthcare-data-licensing/



Training and Testing

LSHC Use Cases

Like so many education fields, medicine is challenged with not enough teachers, rising costs, and an aging workforce. GenAI can be used to help lower those costs and relieve some of the pressures on teaching staff by providing generated data for teaching and testing scenarios, both in the classroom and in the lab setting. Automated grading is helping teaching assistants focus on student outcomes instead of marking papers.

For students, GenAI does not tire of persistent requests to explain, reword, or otherwise provide highly personalized tutoring.

Technology, Media, and Telecommunications

Industry Use Cases – TMT

TMT Use Cases

GenAI is impacting several fields at present, with more uses coming soon. These include:

- Virtual Voice Assistants
- Game Content Development
- Code Summarization and Documentation
- Generative AI-Enabled Creative Tools
- Technical Sales Knowledge Management
- On-Brand Publishing
- Content Localization
- Telco Network Maintenance
- Semiconductor Chip Design and Manufacturing
- Field Sales Assistant

Content Localization

TMT Use Cases

Generative AI can be used to quickly and easily scale content across regions by translating and converting text and audio into regional languages.

Issue/opportunity

The ability to create and translate content at scale can be a competitive differentiator for multinational enterprises, but it can also command significant time and resources, and rapid, on-demand translation may be difficult to achieve.

Deloitte.