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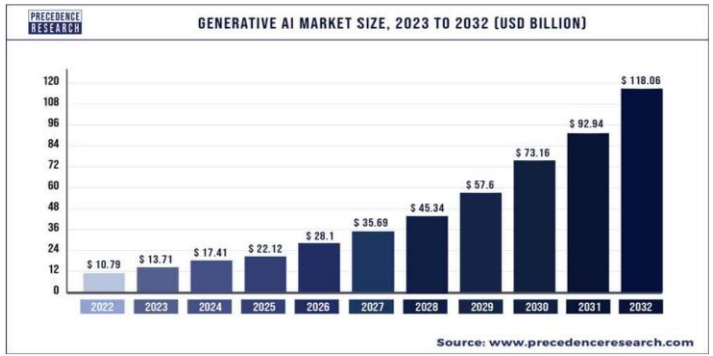
Infosys Azure OpenAI Workshops

AI-transformations at scale

Infosys Azure OpenAI Client Workshops

Workshop Context

- ChatGPT & GPT-4 are the leading products in the New Generative AI, which has reached industry maturity
- The global generative AI market size was estimated at USD 10.79 billion in 2022 and is projected to hit around USD 118.06 billion by 2032, growing at a CAGR of 27.02% during the forecast period from 2023 to 2032.



Workshop Content

- General capabilities of Azure OpenAI & the GPT technology (ChatGPT & GPT-4)
- Industry-specific use cases requiring combinations of Azure OpenAI capabilities
- Dialog patterns to generate high-impact output with Azure OpenAI, ChatGPT
- Architecture patterns to customize Azure OpenAI, ChatGPT & GPT-4 to client needs
- Limitations of ChatGPT & GPT-4 and how to overcome them
- Short-term Azure OpenAI, ChatGPT & GPT-4 PoCs & MVPs, ChatGPT & GPT-4 Trainings for Executives & SMEs, AI-Transformation Management

Making us the Azure OpenAI implementation partner of choice for our clients

Strategic Partnership with OpenAI and Microsoft	Dedicated Azure OpenAI Practice
Infosys is a globally-managed partner of Microsoft. We have a global Microsoft Practice with expertise on Microsoft technology. We cooperate with OpenAI on all our client engagements. Infosys was one of the early investors into OpenAI.	We have a dedicated team of GenAI-practicioners in Europe & India (architects, data scientists, project managers, change managers), who delivered 8 live GPT-projects to clients in different industries.
Profound Prompt Engineering Expertise	**Proven delivery methodology**
We developed a catalogue of Effective Prompt Patterns based on our broad experience with Azure OpenAI, ChatGPT and GPT-4. This includes detailed knowledge-based prompts.	We developed a framework of Azure OpenAI enabled capapabilties and quick-to-implement solution patterns. This enables us to manage fast-tracked PoCs, MVPs and enterprise-scale GenAI programs.
Azure OpenAI - Enterprise Architecture Innovations	**Applied R&D on Generative AI**
We have developed another catalogue of Architecture Patterns on how to integrate ChatGPT and GPT-4 with Enterprise Applications & Data. These patterns accelerate the design phase by 30-40%.	We do daily research since 2020 on what is the latest & greatest on GPT-3, ChatGPT, GPT-4, Generative AI and how it can be applied to solve business problems innovatively and efficiently.

Our GPT-Credentials and the value created for our clients

Leveraging natural language capabilities of Open AI at a German multinational conglomerate corporation

- Infosys partnered with the client to discover different use cases and performed POC on selected use cases and implemented the successfully completed use cases.
- We used Open AI based large language model (GPT-3) for both – domain specific classification of posts and semantic search across tax directives and applied different techniques to help the model learn better and perform the task efficiently.
- Semantic search provided **accurate results for more than 90% of the queries**. Results were validated by domain expert.

Summarizing Clinical Study Reports for a premier biopharmaceutical company

- Proposed to use Open AI based GPT-3 model to augment the task of sum. report generation.
- The following activities are performed:
  - ✓ Chunking of large PDFs into coherent and logical blocks
  - ✓ Extracting text from tabular content within the PDFs
  - ✓ Automated section generation for summary report using GPT-3
  - ✓ Prompt-engineering / few-shot learning using GPT-3 to generate the summaries in the required format.
- 20% efforts saved, 20% less human error

Semantic search engine using Open AI based language model for a British public research university

- Infosys partnered with client to Improve the current search engine and provide better results to students as the current search engine is keyword based and hence not very efficient.
- We used Open AI GPT-3 embeddings to retrieve the most relevant context and produce semantically accurate results for the student queries.
- Semantic search provided **accurate results for more than 90% of the queries**. Results were validated by domain expert.

Structured Knowledge Base Creation for Leading Bank

- We ingested 5K texts with bank-product descriptions and used GPT-3 to automatically extract RDF triples (subject, predicate, object)
- We ran various automatic consistency-checking tools on the triples and eliminated erroneous extractions
- Then we automatically uploaded the remaining triples into a graph database and further validated using a human-in-the-loop approach
- **This approach saved 50% of the otherwise manual efforts to build a product knowledge base**

Business Process Documentation POC* @ a large US based Investment Firm

- The pre-trained GPT-J model while good at understanding multiple modern programming language, did not understand COBOL very well
- With the help of the fine-tuned GPT-J model, we were able to generate contextualized business process documents thereby expending reverse engineering and reduce errors or missing business rules.
- **This approach provided an effort saving of almost 40%, equivalent to a savings of $1.6 MUSD.**

Functional Description Generation POC* @ a large Agricultural Science and Technology Company

- The company had a large codebase of 16000 SAP-ABAP/4 programs and wanted to extract meaningful information from them.
- We used Codex to generate short functional descriptions for undocumented SAP-ABAP/4-programs based on few-shot learning of program name, code snippet and human-created description
- **50% of the descriptions generated by Codex were considered correct** and helpful to migrate the legacy programs

Code Migration POC* @ a large US based Telecom company

- The client had a huge code base of C++ code and wanted to migrate the same to Java .
- Used ML model called Transcoder from Facebook which is a model pretrained on C++ , Java and Python using unsupervised learning.
- This model translates only functions. Hence, pre-processing and post-processing steps were applied to effectively split the code into coherent blocks and stitch them back after translation.
- **Reduced** the developer **effort by almost 35%**

Test script rationalization for Life-science company

The client runs a large SAP-S/4-program with thousands of tests to be performed to ensure go-live readiness. We used GPT-3 to conduct a comprehensive quality assessment of the existing test scripts answering questions like:

- Is it unique or is it similar to another one?
- Is it specific enough to a business sub process
- Are the Test Case Prerequisites / Text Exit Criteria unique
- Are the Test Case Prerequisites / Text Exit Criteria are specific enough
- Is the test case linked to a Roche process in the master process list

Reduced test **efforts by 25%**