

Workshop

# NLP using Generative Models:: Module 01

**Speaker**

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# Agenda :: Module 01

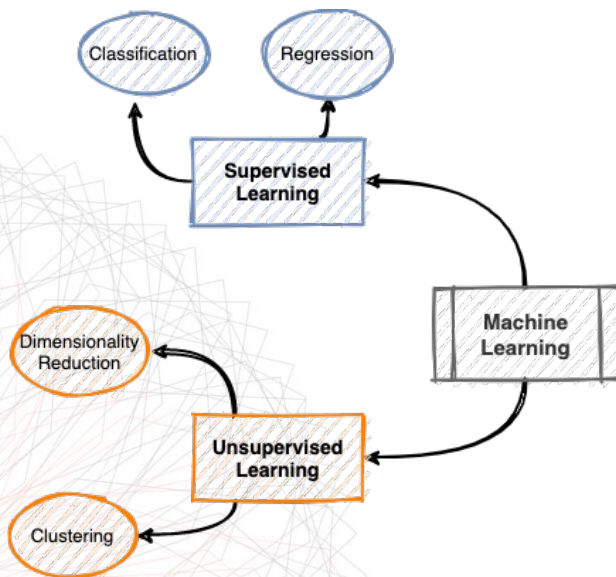
- What is Generative AI?
- Key Domains
- The NLP Journey



Image Sources:

- <https://thisartworkdoesnotexist.com/>

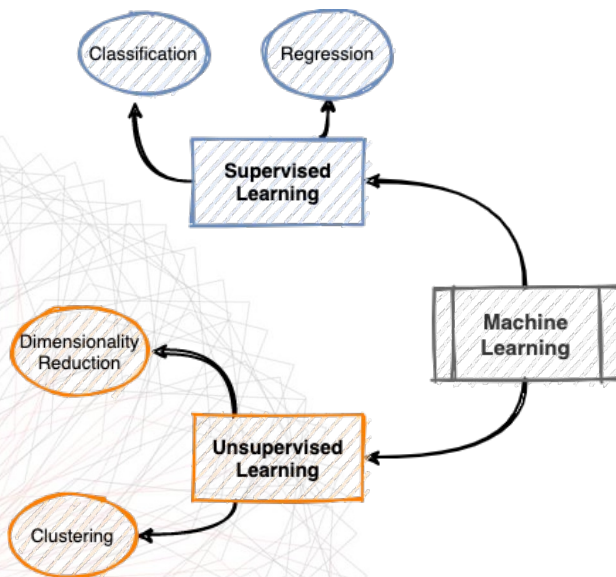
## Machine Learning Landscape



- **Supervised**
  - Regression
  - Classification
- **Unsupervised**
  - Clustering
  - Dimensionality Reduction



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Discriminative  
Modeling

# What is Generative AI?

- Generative models are a class of models in the unsupervised machine learning space
- These help us model the underlying distributions responsible for generating the dataset under consideration

“There is tremendous amount of data easily accessible in most cases. Generative models analyze and understand such datasets”



- NLP
  - Text Completion
  - Code Generation
- Computer Vision
  - Image Generation (text to image, image to image)
  - Style Transfer
  - Super-Resolution
  - Image Outpainting
- Audio
  - Audio Generation (text to audio, audio to audio)
  - Music Generation
- Video
- Multi-Modal

Image Sources:

- <https://stability.ai/stablediffusion> [prompt: Vintage hot rod with custom flame paint job]



- NLP

- TF-IDF
- RNNs
- LSTMs
- Word2Vec
- Attention/Transformers
- BERT / GPT
- GPT2
- InstructNet/InstructGPT
- GPT3.5
- GPT4



Image Sources:

- Neural.love [prompt: retro poster, programmer, laptop, music]





**Thank You!**