



Integrating Semantic Search and Generative AI

Zoom code:
503-616-9422



Who I am



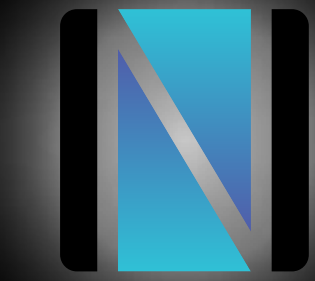
I'm not an attorney ^

- **Passionate FileMaker trainer**
- **Expert FileMaker developer**
- **Certified in FM versions 7 to present**
- **Founded 3 companies**
- **FBA Awards, conference sessions, Meetups**
- **ClarisTalk AI podcast with Cris Ippolite**



What I do

- Champion Class coming January 7th
- Intensive 10 week class covering entire platform
- Emphasizes current best practices and AI
- On-site training, mentoring, consulting
- matt@navarre.training



Agenda

- Boring slide show ~ a few more minutes
- Semantic Search Integration
- 10 minute break
- Generative AI integration
- Semantic + Generative = wow
- Q&A



Today's Class

- Integrate Semantic Search
 - Using OpenAI connection / API key
- Integrate Generative AI
 - It's all about the prompt
- Link them



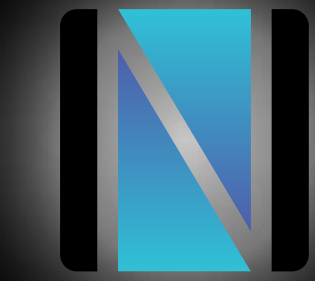
Branches of AI

- Machine Learning
- Deep Learning
- Robotics
- Computer Vision
- Expert Systems
- Natural Language Processing (NLP) ← You are here

Machine Learning



Definition: Algorithms that learn from data to make decisions or predictions without explicit programming.



Machine Learning

- Supervised Learning: Learning with labeled data.
- Unsupervised Learning: Discovering patterns in unlabeled data.
- Reinforcement Learning: Learning through rewards and penalties by interacting with an environment.
- Deep Learning
 - (also a subset of ML, but large enough to be its own branch).



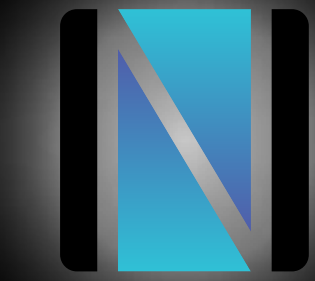
Deep Learning

Definition: A subset of ML involving neural networks with multiple layers, allowing the model to learn complex patterns.



Deep Learning

- Convolutional Neural Networks: Image and video processing
- Recurrent Neural Networks: Sequential data like time
- Transformers: Foundation for models like GPT
- Generative Adversarial Networks: Create synthetic data
 - Generator tries to 'fool' Discriminator



Computer Vision

- Definition: Enables computers to interpret and make decisions based on visual data.
 - Image Recognition
 - Object Detection
 - Facial Recognition



Expert Systems

- Definition: AI systems designed to mimic decision-making ability in a specific domain
- Application Areas
 - Medical Diagnosis
 - Financial Analysis
 - Customer Support systems



NLP

- Enables computers to understand, interpret, and generate human language



NLP

- Semantic Search: Finding relevant information based on meaning, not just keywords.
- Text Generation: Creating human-like text, such as responses in chatbots or automated content.
- Sentiment Analysis: Detecting emotion or opinion in text, useful in customer feedback and social media analysis.
- Language Translation: Converting text from one language to another in real-time.
- Named Entity Recognition (NER): Identifying specific names, dates, or places in text, used in data extraction.



Semantic Search



Types of Search

- Lexical

Search for exact matches in structured data

- Semantic

Search based on meaning, context, and related words



Semantic Search

- FileMaker Pro 21.0
 - Semantic Search features
- FileMaker Pro 21.1
 - Support for Image embedding
 - (Won't cover this today)



Key Functions

- Configure AI Account
- Insert Embedding
 - Choose embedding model
 - Embed Single record or found set
- Perform Semantic Find

Let's Integrate

Break

Generative AI



Key Steps

- System Prompt
- User Prompt
- Insert from URL []



Prompts

- Tells what happens in natural language
- ‘Summarize these records’
- ‘Create a report’
- ‘Write a custom email’

Let's Integrate