2 No-Code & Low-Code ML Platforms

- 1. Orange Data Mining Introduction
- 2. Orange Widgets Overview
- 3. Orange Classification Models
- 4. Orange Clustering Techniques
- 5. Orange Data Preprocessing
- 6. AutoML Concepts
- 7. Teachable Machine by Google
- 8. ML with KNIME
- 9. Microsoft Azure ML Studio
- 10. Google Cloud AutoML

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- 11. Types of Machine Learning
- 12. Supervised Learning
- 13. Unsupervised Learning
- 14. Reinforcement Learning
- 15. Semi-supervised Learning
- 16. Overfitting and Underfitting
- 17. Bias-Variance Tradeoff
- 18. Cross Validation
- 19. Feature Engineering
- 20. Model Evaluation Metrics

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- 21. Descriptive Statistics
- 22. Probability Distributions
- 23. Bayes Theorem
- 24. Hypothesis Testing
- 25. Central Limit Theorem
- 26. Data Cleaning
- 27. EDA Exploratory Data Analysis
- 28. Correlation vs Causation
- 29. Missing Value Treatment
- 30. Outlier Detection

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- 31. Linear Regression
- 32. Logistic Regression
- 33. Decision Trees
- 34. Random Forest
- 35. K-Nearest Neighbors (KNN)
- 36. Naive Bayes
- 37. Support Vector Machine (SVM)
- 38. Gradient Boosting
- 39. XGBoost
- 40. LightGBM

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- 41. K-Means Clustering
- 42. Hierarchical Clustering
- 43. DBSCAN
- 44. PCA Principal Component Analysis
- 45. t-SNE
- 46. UMAP
- 47. Anomaly Detection
- 48. Association Rules (Apriori)
- 49. Gaussian Mixture Models
- 50. Latent Dirichlet Allocation (LDA)

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- 51. Linear Algebra Basics
- 52. Matrix Multiplication
- 53. Vector Spaces
- 54. Eigenvalues & Eigenvectors
- 55. Calculus Derivatives
- 56. Chain Rule in Backpropagation
- 57. Probability Theory
- 58. Combinatorics
- 59. Entropy & Information Gain
- 60. Optimization Techniques (Gradient Descent)

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- 61. Perceptron
- 62. Activation Functions
- 63. Feedforward Neural Networks
- 64. Backpropagation
- 65. Loss Functions
- 66. Convolutional Neural Networks (CNN)
- 67. Recurrent Neural Networks (RNN)
- 68. LSTM and GRU
- 69. Batch Normalization
- 70. Dropout Regularization

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- 71. Image Classification
- 72. Object Detection
- 73. Image Segmentation
- 74. YOLO (You Only Look Once)
- 75. YOLOv4 and YOLOv5
- 76. SSD Single Shot Detector
- 77. RCNN & Fast RCNN
- 78. OpenCV Basics
- 79. Image Preprocessing
- 80. Image Augmentation

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- 81. TensorFlow Basics
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- 83. TensorFlow Keras API
- 84. Building CNN with TensorFlow
- 85. TensorBoard for Visualization
- 86. PyTorch Basics
- 87. PyTorch Autograd
- 88. Model Training Loop in PyTorch
- 89. GPU Training
- 90. Transfer Learning

□ Natural Language Processing (NLP)

- 91. Text Preprocessing (Tokenization, Lemmatization)
- 92. Bag of Words
- 93. TF-IDF
- 94. Word Embeddings Word2Vec
- 95. GloVe
- 96. Transformers Architecture
- **97. BERT**
- 98. GPT (Generative Pre-trained Transformer)
- 99. Sentiment Analysis
- 100. Named Entity Recognition

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- 101. What is Generative AI
- 102. LLM Architecture
- 103. Prompt Engineering
- 104. Text Generation
- Fine-tuning LLMs
- 106. GPT-3, GPT-4
- 107. LLaMA, LLaMA 2, LLaMA 3
- 108. Claude & Gemini
- 109. Tokenization in LLMs
- 110. Zero-shot & Few-shot Learning

☐ LangChain & RAG

- 111. Introduction to LangChain
- 112. Chains and Agents
- 113. Vector Stores
- 114. LangChain with OpenAI API
- 115. RAG Retrieval-Augmented Generation
- 116. Building QA Systems with RAG
- 117. LangChain with Pinecone
- 118. LangChain with ChromaDB
- 119. Memory in LangChain
- 120. Output Parsers in LangChain

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- 123. Model Versioning
- 124. GitHub for ML Projects
- 125. DVC Data Version Control
- 126. MLFlow
- 127. Continuous Training Pipelines
- 128. Docker for ML
- 129. FastAPI for Deployment
- 130. Streamlit for UI

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- 131. Adobe Firefly for Image Gen
- Runway ML for Video Gen
- 133. Gen-1 to Gen-3 Models in Runway
- 134. Sound Generation with AI
- 135. Text-to-Image Generation
- 136. Text-to-Video Generation
- 137. Image Inpainting
- 138. Stable Diffusion
- 139. DeepFakes
- 140. AI for Music Generation

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- 141. Colab for ML Training
- 142. Jupyter Notebook
- 143. HuggingFace Transformers
- 144. OpenAI API Usage
- 145. Gradio for Demos
- 146. Streamlit Sharing
- 147. Google Cloud AI
- 148. AWS SageMaker
- 149. DataRobot
- 150. DeepSeek AI Chat