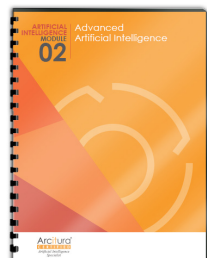


Artificial Intelligence Systems Neural Networks and Design Patterns Mapping Reference Matrix

| | Baseline Modeling | Content Filtering | Dimensionality Reduction | Feature Encoding | Feature Imputation | Feature Scaling | Frequent Model Retraining | Image Recognition | Natural Language | Overfitting Avoidance | Pattern Identification | Prediction Performance Evaluation | Sequence Identification | Supervised | Supervised Network Configuration | Training Performance Evaluation | Transfer Learning | Unsupervised |
|-----------------------------------------------------|-------------------|-------------------|--------------------------|------------------|--------------------|-----------------|---------------------------|-------------------|------------------|-----------------------|------------------------|-----------------------------------|-------------------------|------------|----------------------------------|---------------------------------|-------------------|--------------|
| AutoEncoder (AE) | X | | X | X | X | X | | | X | X | X | | | | X | | | X |
| Boltzmasnn Machine (BM) | X | | | X | X | X | | | X | X | X | X | | | X | | | X |
| Deconvolutional Network (DN) | X | X | X | X | X | X | X | X | X | X | X | | X | | X | X | | X |
| Deep Belief Network (DBM) | X | X | | X | X | X | | X | X | X | X | X | X | | X | X | | X |
| Deep Convolutional Inverse Graphics Newtork (DCIGN) | X | X | X | X | X | X | | X | X | X | X | | X | | X | X | | X |
| Deep Convolutional Network (CDN) | X | X | X | X | X | X | X | X | X | X | X | | X | | X | X | | X |
| Deep Feedforward (DFF) | X | | X | X | X | X | | | X | X | X | | X | X | X | | | X |
| Deep Residual Network (DRN) | X | | | X | X | X | | X | | X | | | X | | X | X | | |
| Denosing AutoEncoder (DAE) | X | X | | X | X | X | X | | | X | X | | | | X | | | X |
| Echo State Network (ESN) | X | | | X | X | X | X | | X | X | X | X | X | | X | | | X |
| Extreme Learning Machine (ELM) | X | | X | X | X | X | X | | | X | | X | X | | X | | | |
| Feedforward (FF) | X | | X | X | X | X | | | | X | | X | X | X | X | | | X |
| Generative Adversarial Network | X | X | | X | X | X | X | | | X | X | X | | | X | | | X |
| Hopfield Network | X | X | | X | X | X | X | | | X | X | X | | | X | | | X |
| Kohonen Network (KN) | X | | | X | X | X | | | | X | | X | | | X | | | X |
| Liquid State Machine | X | X | | X | X | X | X | X | X | X | X | | X | | X | | | X |
| Long/Short Term Memory (LSTM) | X | | | X | X | X | X | | X | X | X | X | X | | X | | | X |
| Markov Chain (MC) | X | | | X | X | X | X | | X | X | X | X | X | | X | | | X |
| Neural Turing Machine (NTM) | X | | | X | X | X | X | | X | X | X | X | X | | X | | | X |
| Perceptron (P) | X | | X | X | X | X | X | | | X | | X | X | X | X | | | X |
| Radial Basis Forward (RBF) | X | | X | X | X | X | X | | | X | | X | X | X | X | | | X |
| Recurrent Neural Networks (RNNs) | X | | | X | X | X | X | | X | X | X | X | X | | X | | | X |
| Restricted Boltzmann Machine (RBM) | X | | | X | X | X | X | | X | X | X | X | X | | X | | | X |
| Sparse AutoEncoder (SAE) | X | X | X | X | X | X | X | | | X | X | X | | | X | | | X |
| Support Machine Vector (SVM) | X | | | X | X | X | X | | | X | | X | X | | X | | | |
| Variational AutoEncoder (VAE) | X | X | X | X | X | X | X | | | X | X | X | | | X | | | X |



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