

Project

Ideas

with

code



Natural language processing (NLP)

| | | | |
|---|--|--|---|
|  Text Classification |  Language Modeling (LM) |  Named Entity Recognition (NER) |  Question Answering (QA) |
|  Text Summarization |  Machine Translation (MT) |  Image Captioning |  Conversational AI (chatbot) |


















Computer vision

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|--|--|--|--|
|  Image classification |  Object Detection |  Object Tracking |  Segmentation |
|  Image Generation |  Pose Estimation |  Super Resolution |  Style Transfer |
|  Image Captioning |  Action Recognition | | |

Miscellaneous concepts

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|--|---|--|--|
|  Recommendation Systems |  Anomaly Detection |  Time-Series |  Topic Modeling |
|  Clustering |  Survival Analysis |  Causal Inference |  Speech Recognition |
|  Speech Synthesis |  Music Generation |  Privacy | |

Algorithms

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|---|---|---|---|
|  Linear Algebra |  Maximum Likelihood Estimation (MLE) |  Naive Bayes |  K Nearest Neighbors (KNN) |
|  Linear Regression |  Logistic Regression |  Decision Trees |  Support Vector Machines (SVM) |
|  Gradient Boosting |  Multilayer Perceptrons (MLP) |  Convolutional Neural Networks (CNN) |  Embeddings |
|  Recurrent Neural Networks (RNN) |  Attention |  Transformers |  Generative Adversarial Networks (GAN) |
|  Autoencoders (AE) |  Graph Neural Networks (GNN) |  Gaussian Processes (GP) | |











Frameworks

| | | | |
|--|---|---|--|
|  Python |  NumPy |  Pandas |  Scikit-learn |
|  TensorFlow |  PyTorch |  TensorFlow JS |  JAX |

Concepts

| | | | |
|--|---|--|--|
|  Transfer Learning |  Unsupervised Learning |  Semi-supervised Learning |  Self-supervised Learning |
|  Reinforcement Learning |  Multi-task Learning |  Meta Learning |  Few-Shot Learning |
|  Bayesian Deep Learning |  Adversarial Learning | | |

Data, Models and training

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|---|--|--|--|
|  Interpretability |  Model Compression |  Bias |  Data Collection |
|  Data Augmentation |  Labeling |  Visualization |  Hyperparameter Optimization |
|  Experiment Tracking |  Distributed Training |  Systems Design | |