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Exploring deep learning for data-efficient and generalizable visual recognition

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List of Abbreviations

Abbreviation	Full Name / Short Definition
DCNNs	Deep Convolutional Neural Networks / A regularized version of multilayer perceptrons based on convolution kernels
ReLU	Rectified Linear Unit / An activation function returns 0 if it receives any negative input
FC	Fully-Connected (layer)
KNN	K-Nearest Neighbors
FSL	Few-Shot Learning / A computer vision task
ProtoSimNet	Prototype Similarity Network / A metric-based framework for enhanced class separability in few-shot embedding space.
AFPN	Attention-based Feature Pyramid Network / a scale-aware hierarchical feature representation with attention-guided cross-level aggregation for few-shot learning.
AMFF	Adaptive Multi-scale Feature Fusion / a multi-scale feature enrichment mechanism for improving representation diversity under few-shot supervision.
DSKT	Dual Selective Knowledge Transfer / a selective knowledge transfer paradigm for robust generalization to novel few-shot tasks.
MSE	Mean Squared Error / A metric to measure the distance between two features
BCE	Binary Cross Entropy / A metric that tracks incorrect labeling of the data class by a model
SSL	Self-supervised Learning / A learning process where the model trains itself to learn one part of the input from another part of the input
KL-divergence	Kullback–Leibler divergence / A metric to measure the distance between two distributions
OOD	out-of distribution / it is used to describe a dataset where its train and test splits are in different label distributions
IID	identically distributed (data)

