	Junior 0-2 years	Specialist 2-5 years	Seasoned 5+ years
Logic	Simple proofs, boolean logic	Number theory, fuzzy logic	ZFC, Turing machines, computability
CS and Computing	Python basics, O-notation, data structures	Databases, OOP, scientific computing with NumPy	Big Data, NP problems, Tensorflow / PyTorch backend
Mathematics	Matrix calculus, integral and derivatives	SVD, PCA, determinant	Differential Geometry, Functional Analysis, Tensor Algebra
Probability Theory and Statistics	The law of the big numbers, probability distributions	Bayesian statistics, statsmodels	Exponential Families, PyMC3 / Pyro
Optimization	Function extremums, gradient descent	Gradient descent variations, optimization theory	Non-convex and non-differentiable functions, genetic algos
General Predictive Modeling	Cross-validation and overfitting	How to choose losses and prior distributions of the data	Statistical learning theory
Machine Learning Algorithms	Basic understanding of the logistic regression, SVM, trees	Underlying mathematics, bias-variance tradeoff, boosting	Metric learning, anomaly detection
Neural Networks and Deep Learning	Backpropagation, depth vs width	Regularization, CNNs, RNNs	Transformer, YOLO, state of the art models
Research and Frontiers	Heard about arxiv, head about researchers	Classical papers and (probably) RL	You are able to discuss last ICLR / NeurIPS
Communication and Presentation	Visualization basic and graphs	Business metrics vs Machine Learning metrics	Architecture of solutions, relationships between stakeholders