System	Component							Design Choices			
	Query Parser	Relational Engine			Execution Engine			Integration Mode	Learning Source	ML Model Family	ML Learning Type
		Optimizer	Physical DB Design	Approx. Query Proces.	Knob Tuning	Provisioning/ Scheduling	Data Structures & Algos.				
SpeakQL	✓							External	N/A	DL	N/A
Seq2SQL	✓							External	Queries	DL	RL
SQLNet	✓							External	Queries	DL	Supervised
LEO		✓						Internal	Queries	Classical	Supervised
CardLearner		✓						Internal	Queries	Classical	Supervised
Naru		✓						External	Data	DL	Supervised
DeepDB		✓						External	Data	Classical	Supervised
QPPNet		✓						External	Queries	DL	Supervised
SkinnerDB		✓						Internal	Queries	Classical	RL
ReJoin		✓						Internal	Queries	DL	RL
Neo		✓						Internal	Queries	DL	RL
AutoAdmin			✓					External	Queries	Classical	Supervised
QB5000			✓					External	Queries	Classical	Supervised
DQM			✓					External	Queries	DL	RL
Verditct				✓				External	Queries	Classical	Supervised
DBEst				✓				External	Data	Classical	Supervised
iTuned					✓			External	Queries	Classical	Unsupervised
OtterTune					✓			External	Queries	Classical	Unsupervised
iBTune					✓			External	Queries	DL	Supervised
WiseDB						✓		External	N/A	Classical	Supervised
Bandit						✓		External	Queries	Classical	RL
PerfEnforce						✓		External	Queries	Classical	RL
Learned Index							✓	Internal	Data	Classical	Supervised
FITing-Tree							✓	Internal	Data	Classical	Supervised
XIndex							✓	Internal	Both	Classical	Supervised
NoisePage			✓		✓			Internal	Queries	Both	All
SageDB		✓	✓		✓	✓	✓	Internal	Both	Both	All

Figure 1: Systems surveyed in this paper, DBMS component they optimize, and the design choices they make (DL: Deep Learning, RL: Reinforcement Learning).