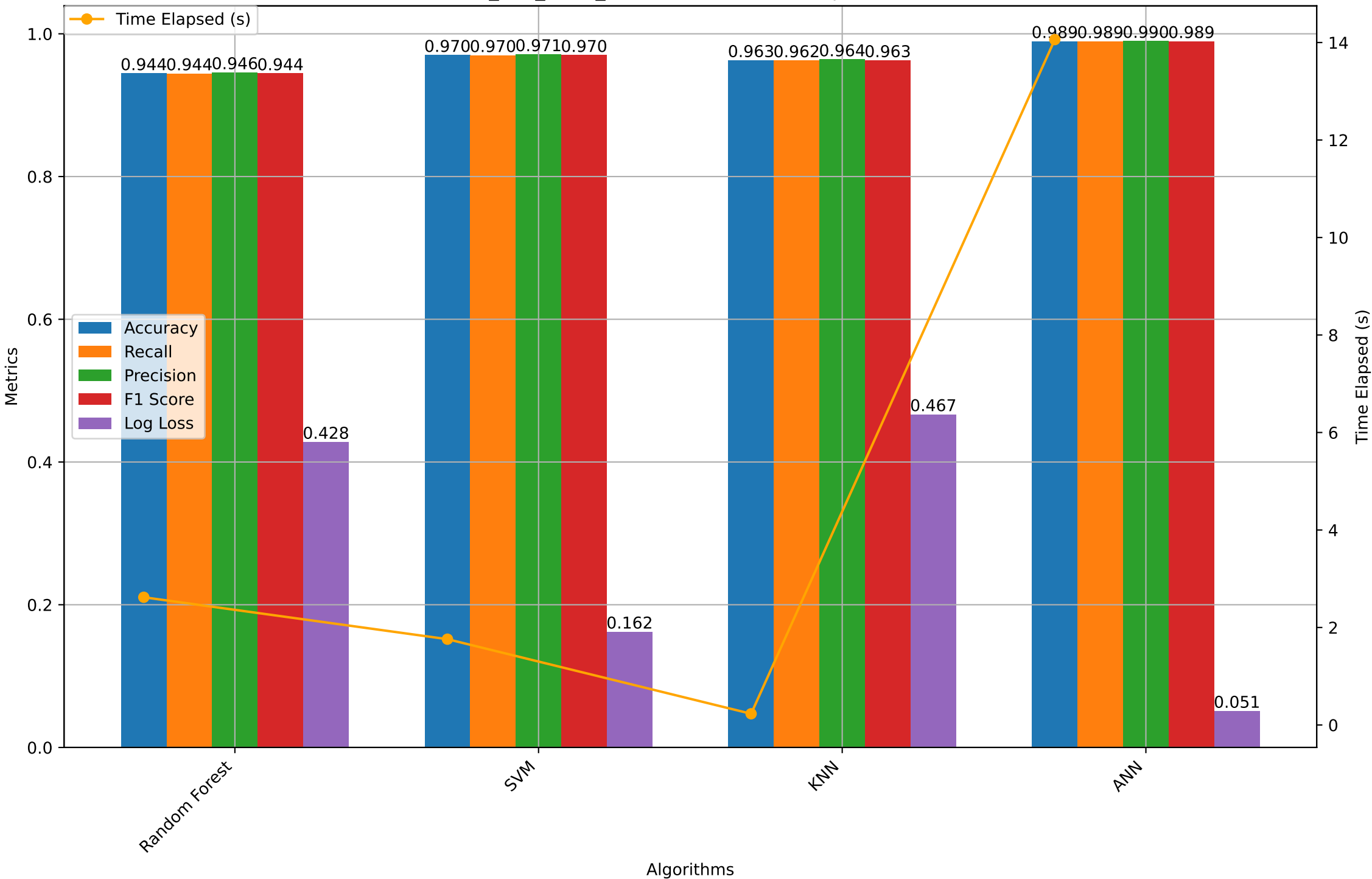
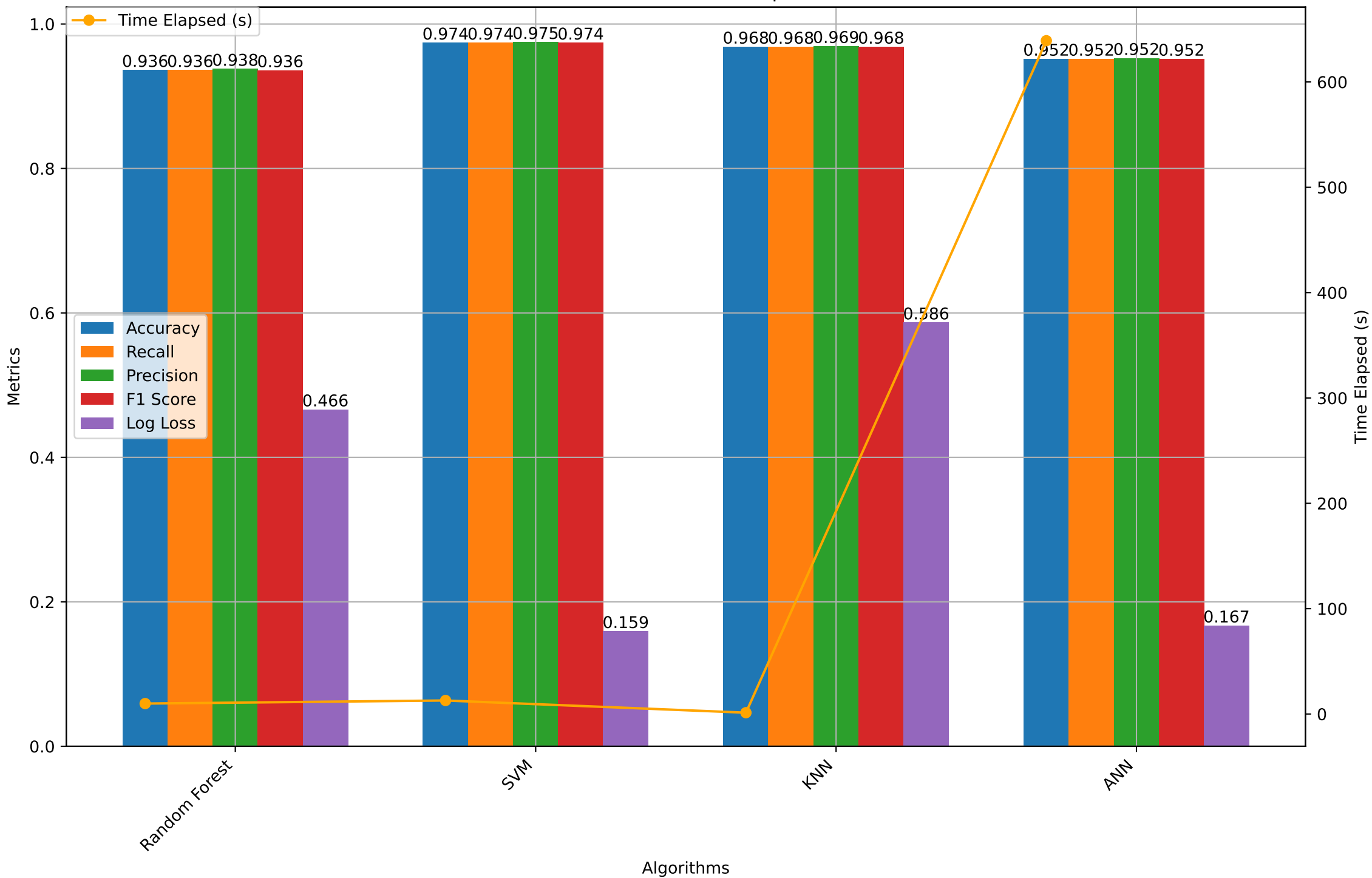


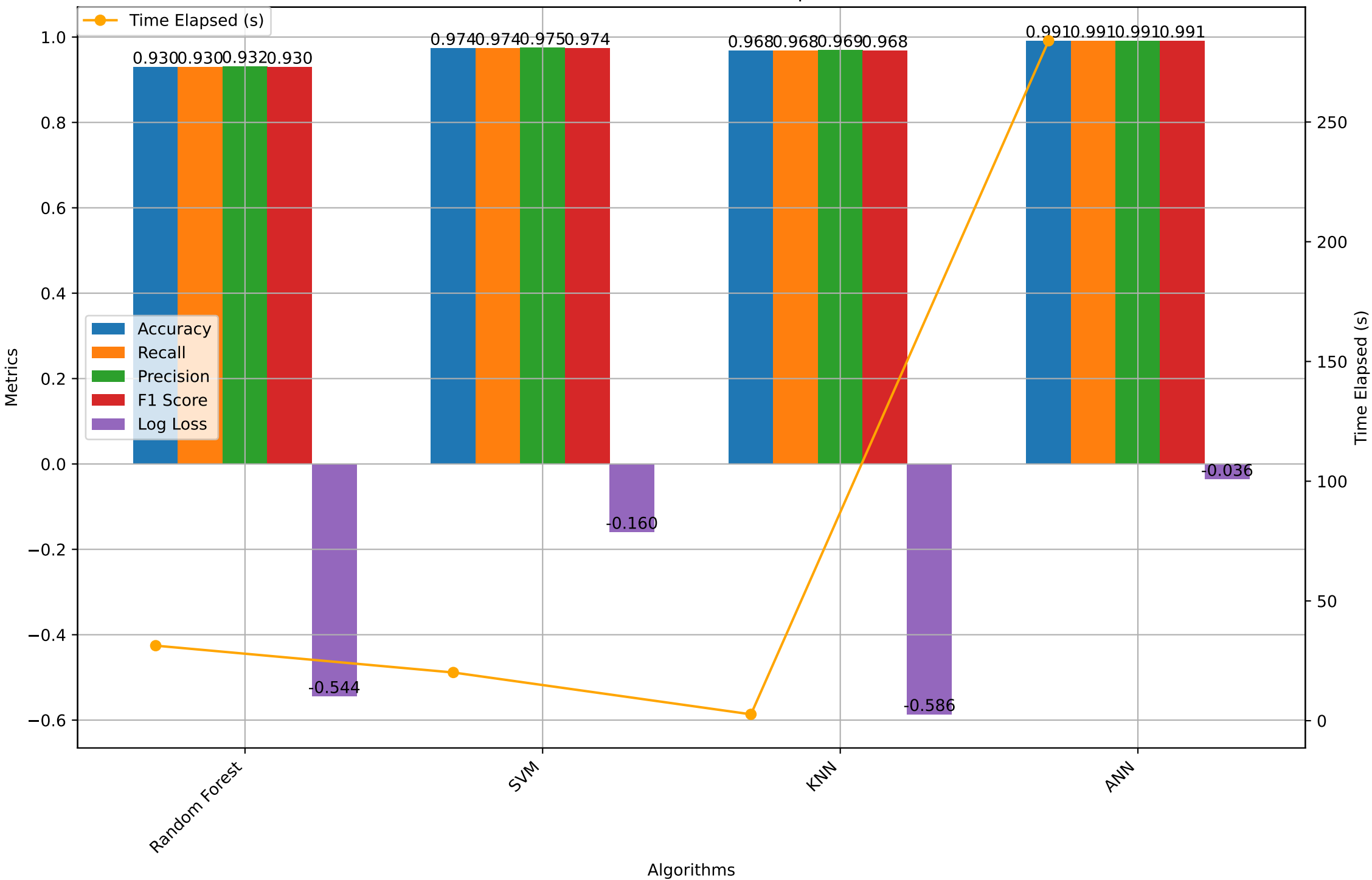
3_fold_cross_validation - Metric Comparison



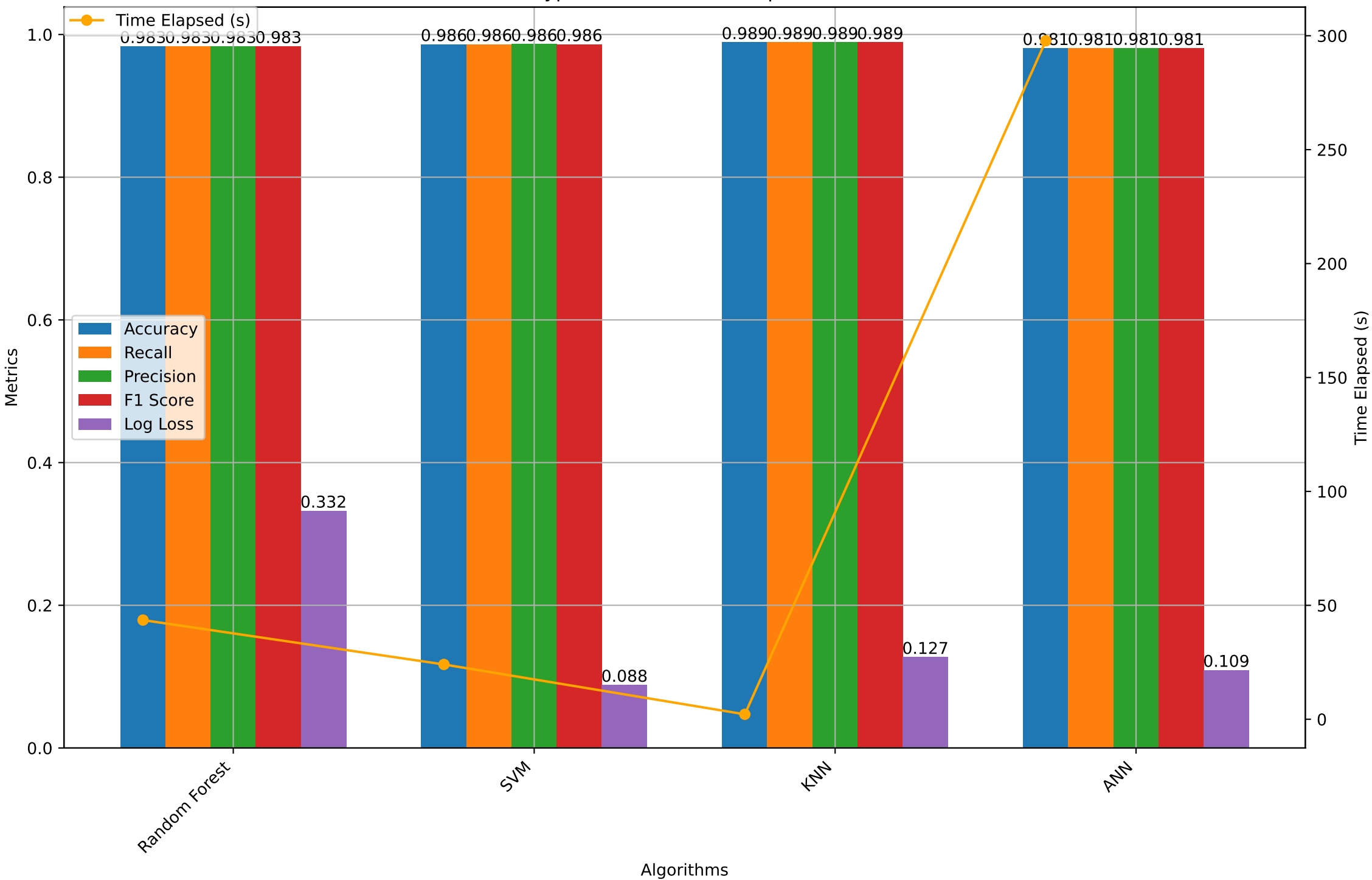
Grid Search - Metric Comparison



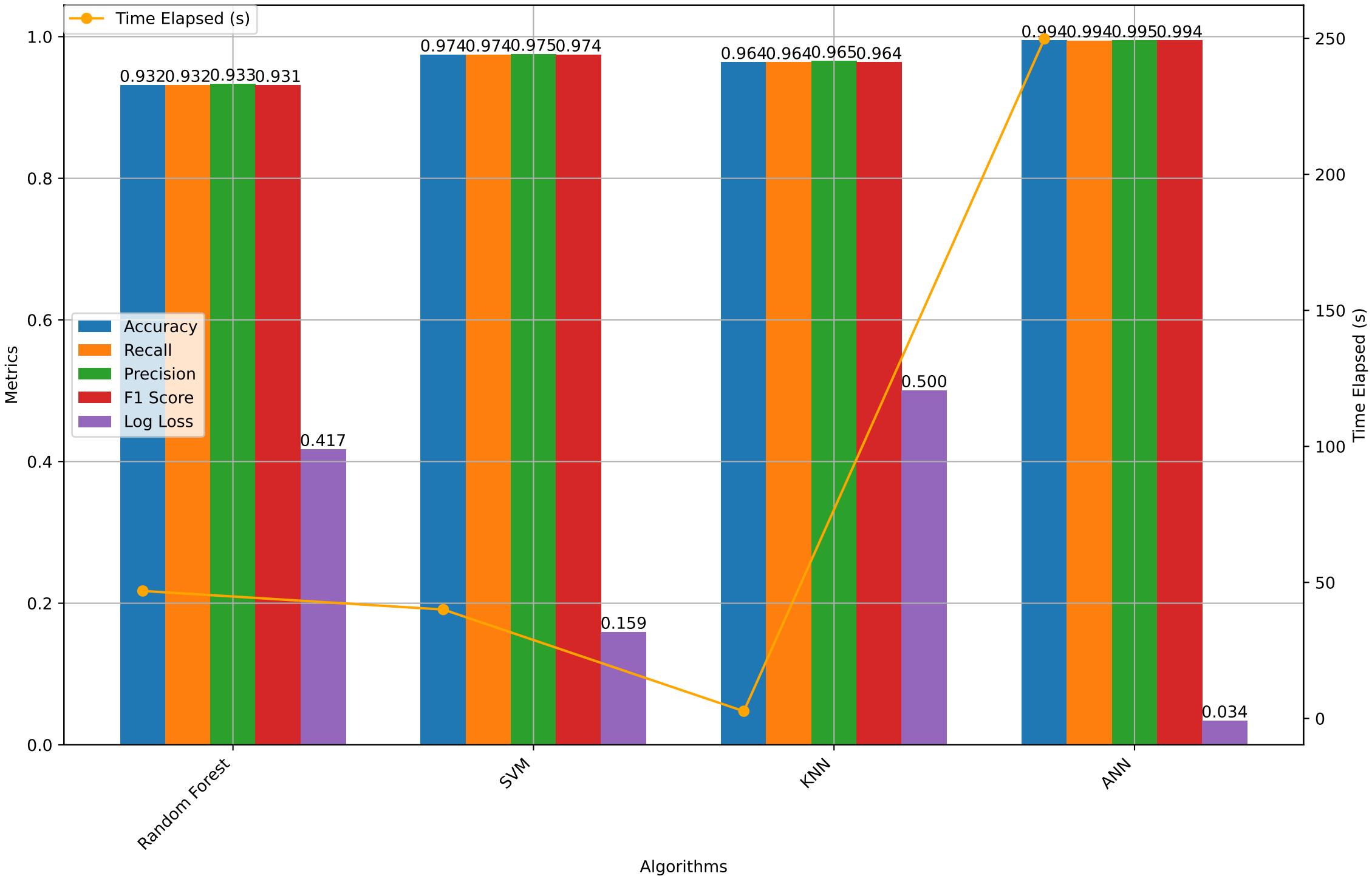
Random Search - Metric Comparison



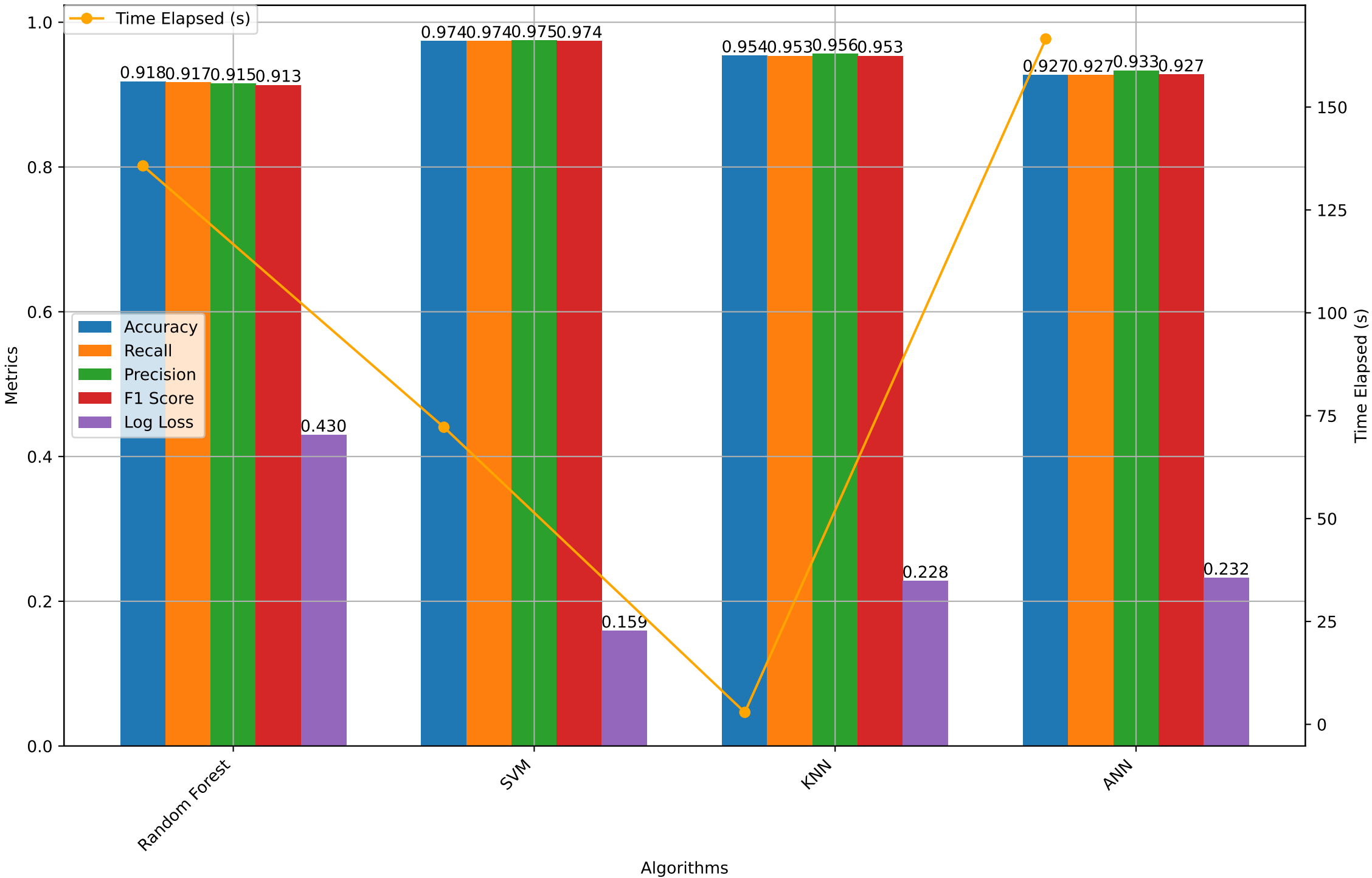
Hyperband - Metric Comparison



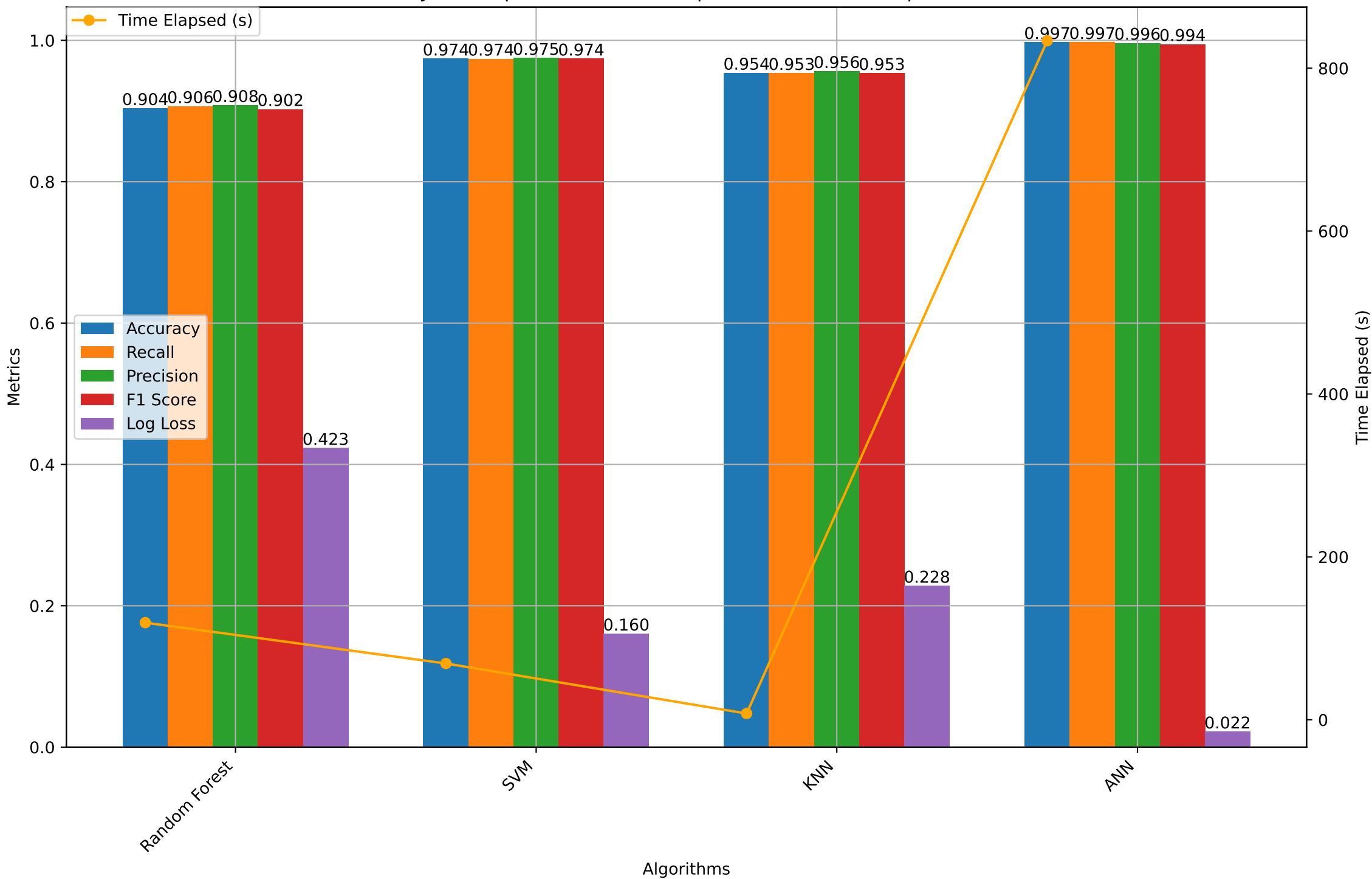
Bayesian Optimization - Metric Comparison



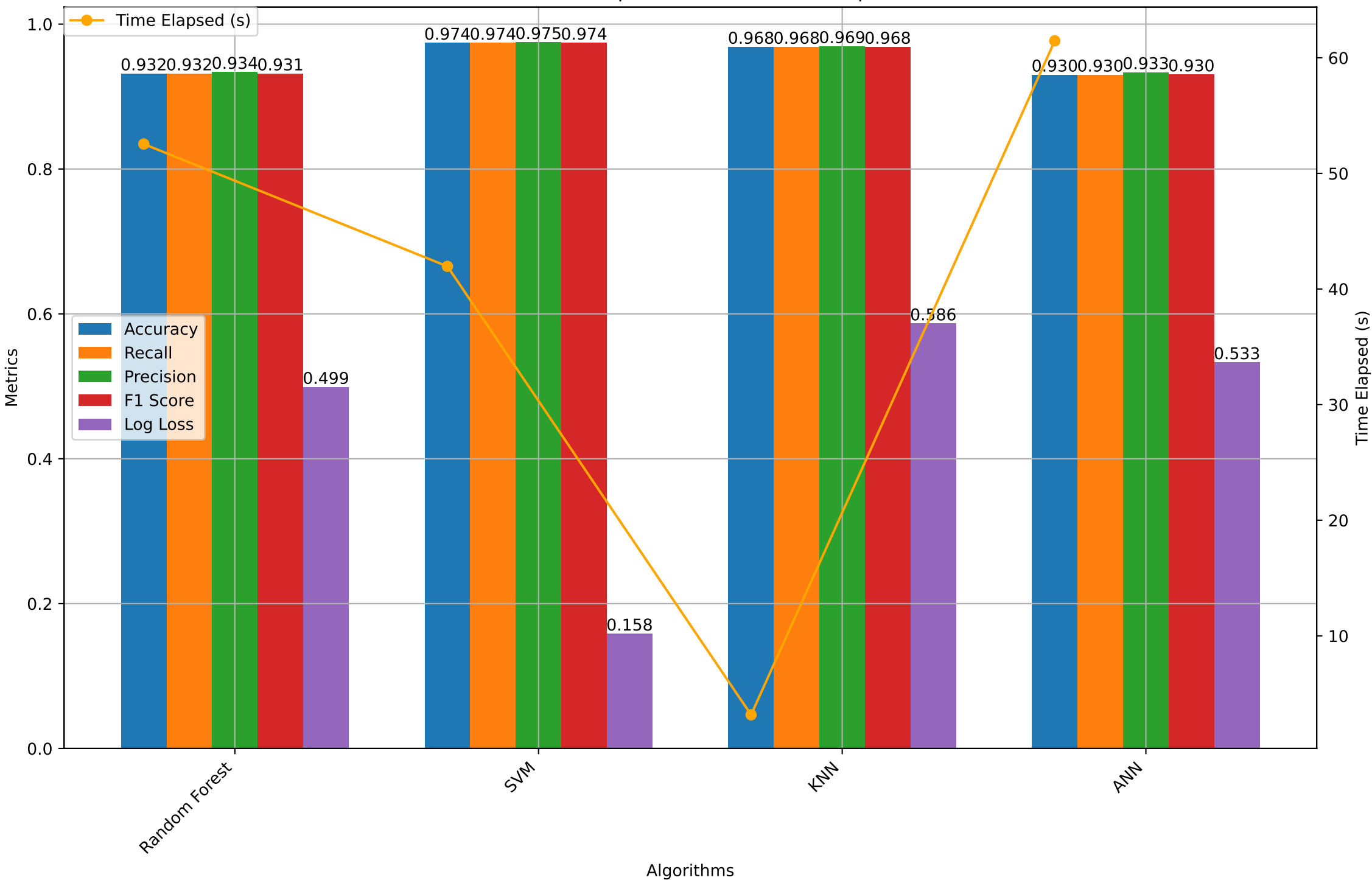
Sequential Model-Based Optimization (skopt) - Metric Comparison



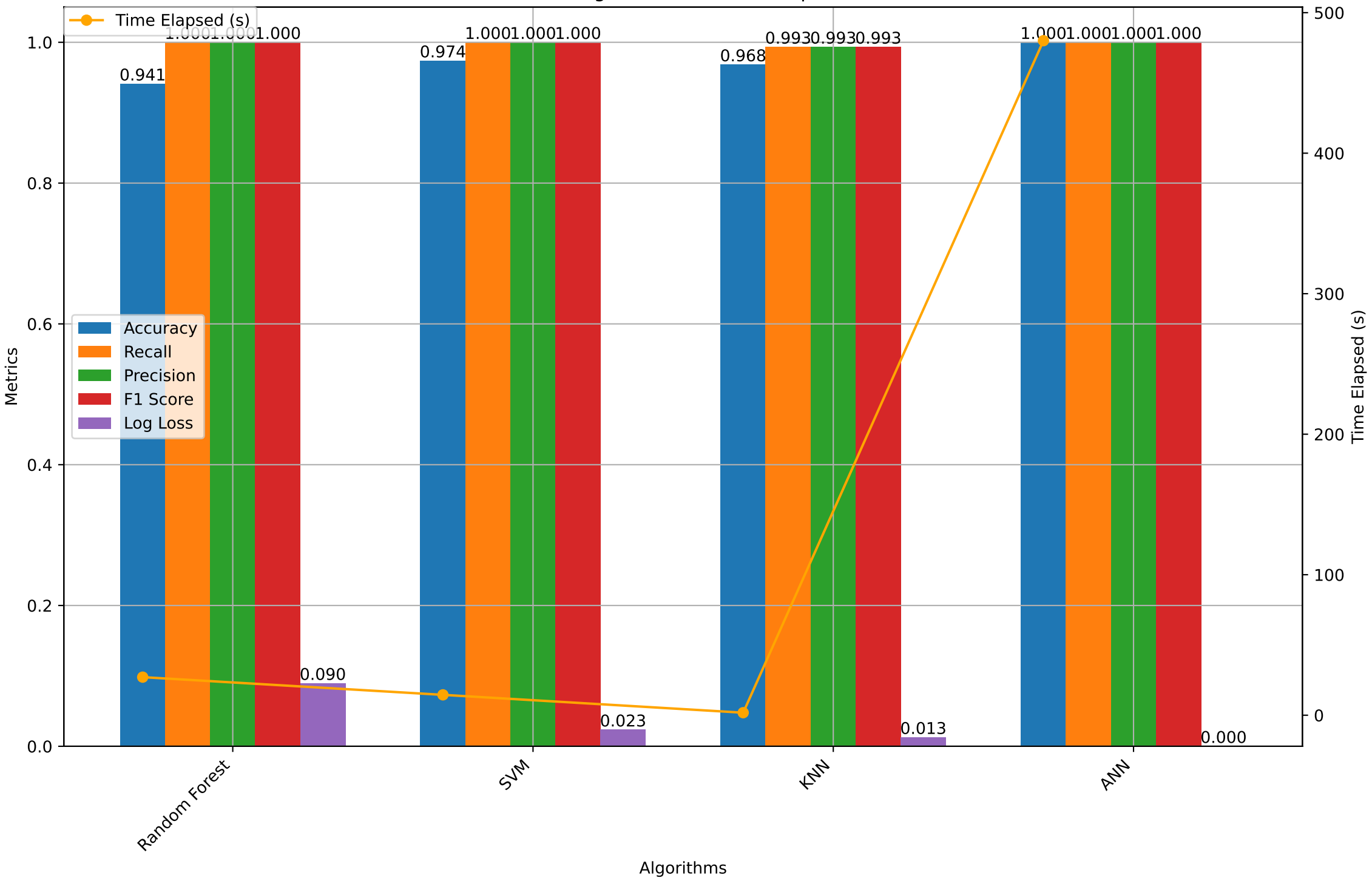
Bayesian Optimization (scikit-optimize) - Metric Comparison



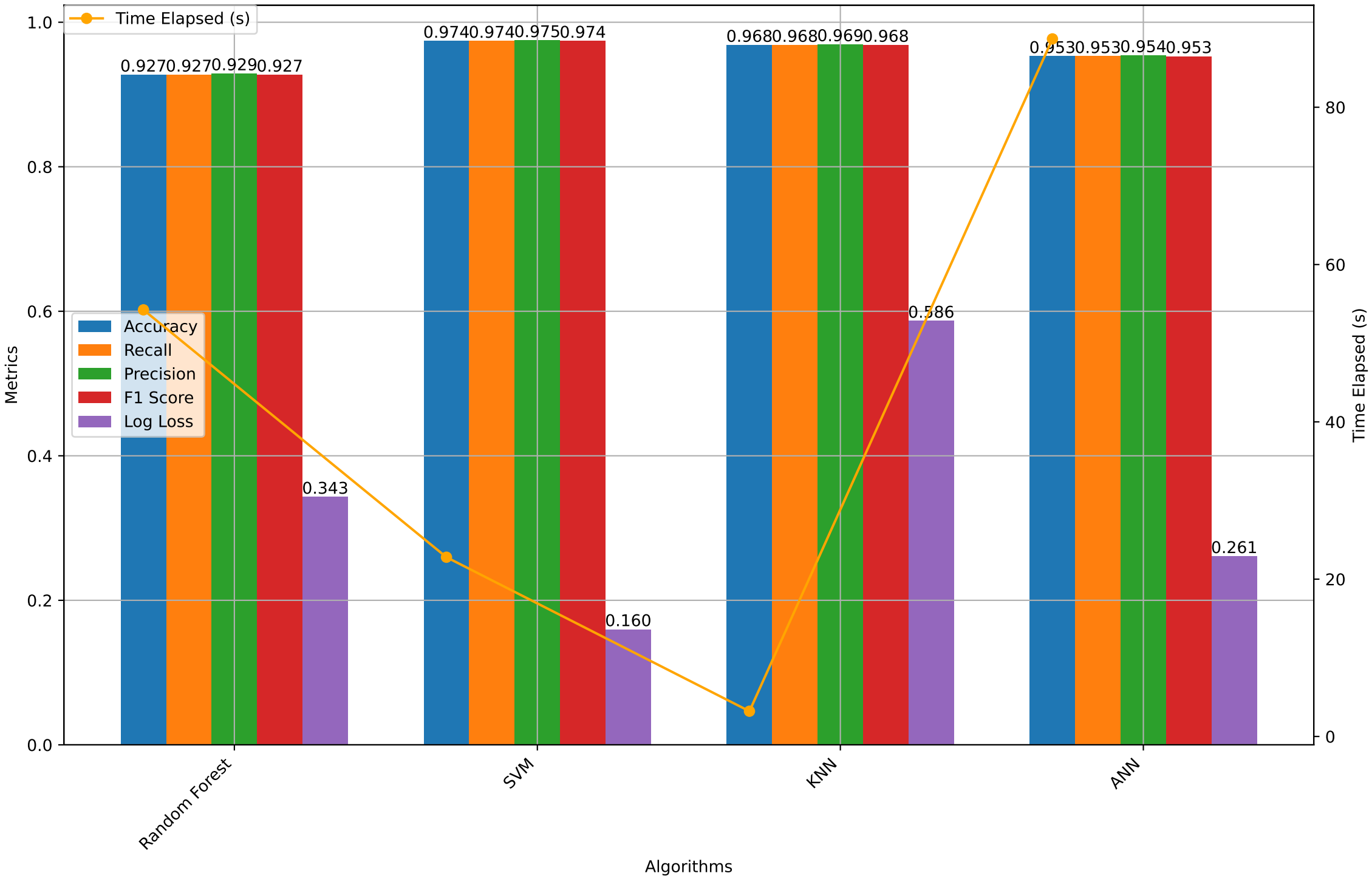
Particle Swarm Optimization - Metric Comparison



Genetic Algorithm - Metric Comparison



TPOT - Metric Comparison



Best Algorithm and Procedure Summary:

Procedure	Accuracy Winner	Recall Winner	Precision Winner	F1 Score Winner	Log Loss Winner	Accuracy Value	Recall Value	Precision Value	F1 Score Value	Log Loss Value	Time Winner	Time Elapsed (s)
3_fold_cross_validation	ANN	ANN	ANN	ANN	ANN	0.9894268224819144	0.9893373585042248	0.9896386305521788	0.9893927700182398	0.0509305802166654	KNN	0.23
Grid Search	SVM	SVM	SVM	SVM	SVM	0.9738452977184195	0.97378027527868	0.9747033402148696	0.9738463298476429	0.1591035532774953	KNN	1.25
Random Search	ANN	ANN	ANN	ANN	KNN	0.9910962715637174	0.9910962715637174	0.9912452799708066	0.9910849370851746	-0.5864209476086791	KNN	2.66
Hyperband	KNN	KNN	KNN	KNN	SVM	0.9888888888888888	0.9888888888888888	0.9889539259663372	0.9888499126924106	0.088162982782323	KNN	2.1684181690216064
Bayesian Optimization	ANN	ANN	ANN	ANN	ANN	0.9944351697273234	0.9943769235600778	0.9945860180802466	0.9944074274490003	0.0339280480094281	KNN	2.65
Sequential Model-Based Optimization (skopt)	SVM	SVM	SVM	SVM	SVM	0.9738452977184195	0.97378027527868	0.9747033402148696	0.9738463298476429	0.1590299455832476	KNN	2.916343688964844
Bayesian Optimization (scikit-optimize)	ANN	ANN	ANN	ANN	ANN	0.9972175848636616	0.9972030651340996	0.9961359616331444	0.9944135330555768	0.0216897513123993	KNN	7.69
Particle Swarm Optimization	SVM	SVM	SVM	SVM	SVM	0.9738452977184195	0.9738452977184195	0.9747399116696794	0.9738957802126214	0.1581703668364884	KNN	3.17
Genetic Algorithm	ANN	Random Forest	Random Forest	Random Forest	ANN	1.0	1.0	1.0	1.0	2.395308756997716e-05	KNN	1.8
TPOT	SVM	SVM	SVM	SVM	SVM	0.9738452977184195	0.9738452977184195	0.9747399116696794	0.9738957802126214	0.1596058659445909	KNN	3.21

Overall Best Algorithm and Procedure:

Procedure	Accuracy Winner	Recall Winner	Precision Winner	F1 Score Winner	Log Loss Winner	Accuracy Value	Recall Value	Precision Value	F1 Score Value	Log Loss Value	Time Winner	Time Elapsed (s)
Genetic Algorithm	ANN	Random Forest	Random Forest	Random Forest	ANN	1.0	1.0	1.0	1.0	2.395308756997716e-05	KNN	1.8