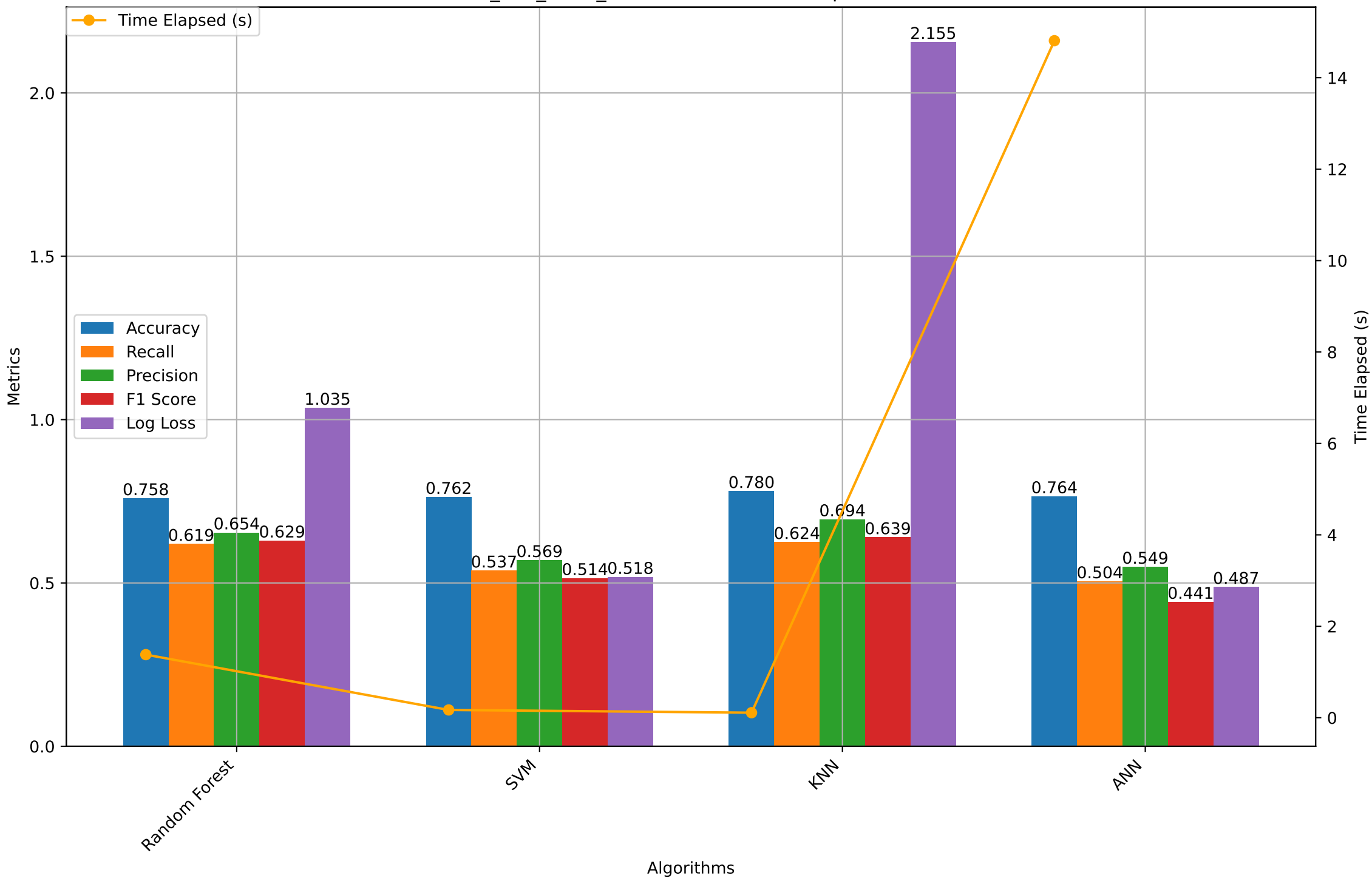
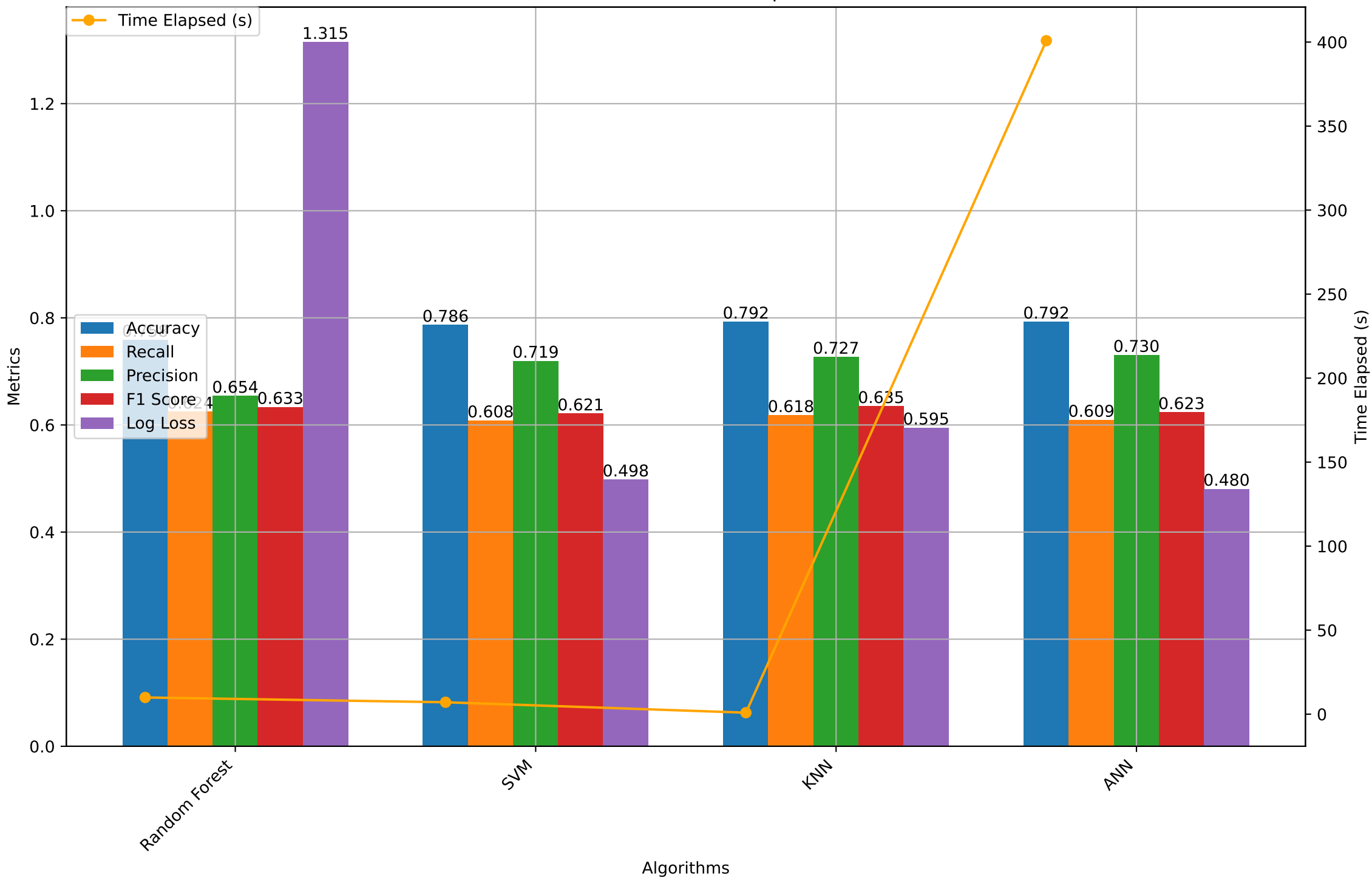


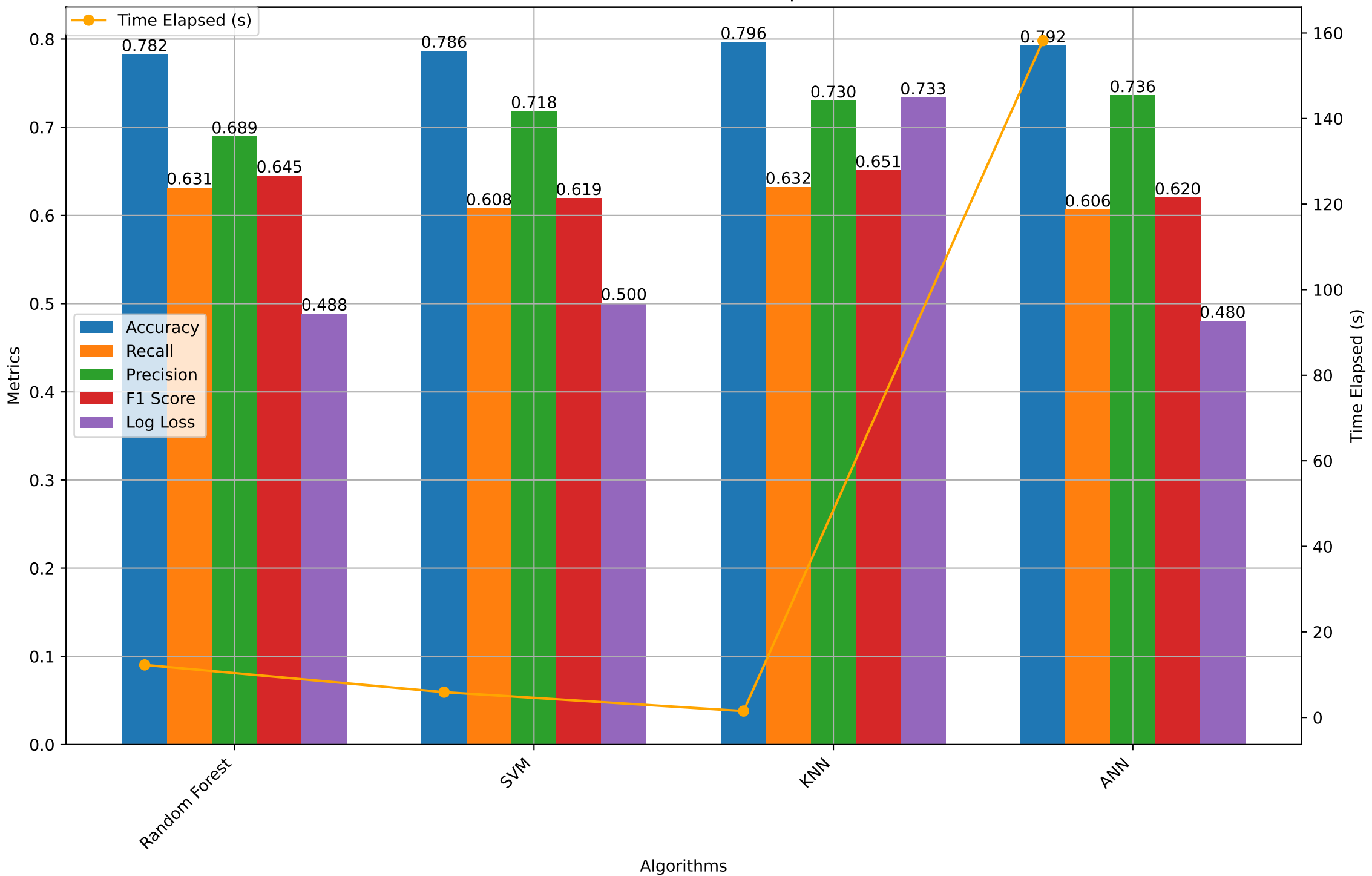
# 3\_fold\_cross\_validation - Metric Comparison



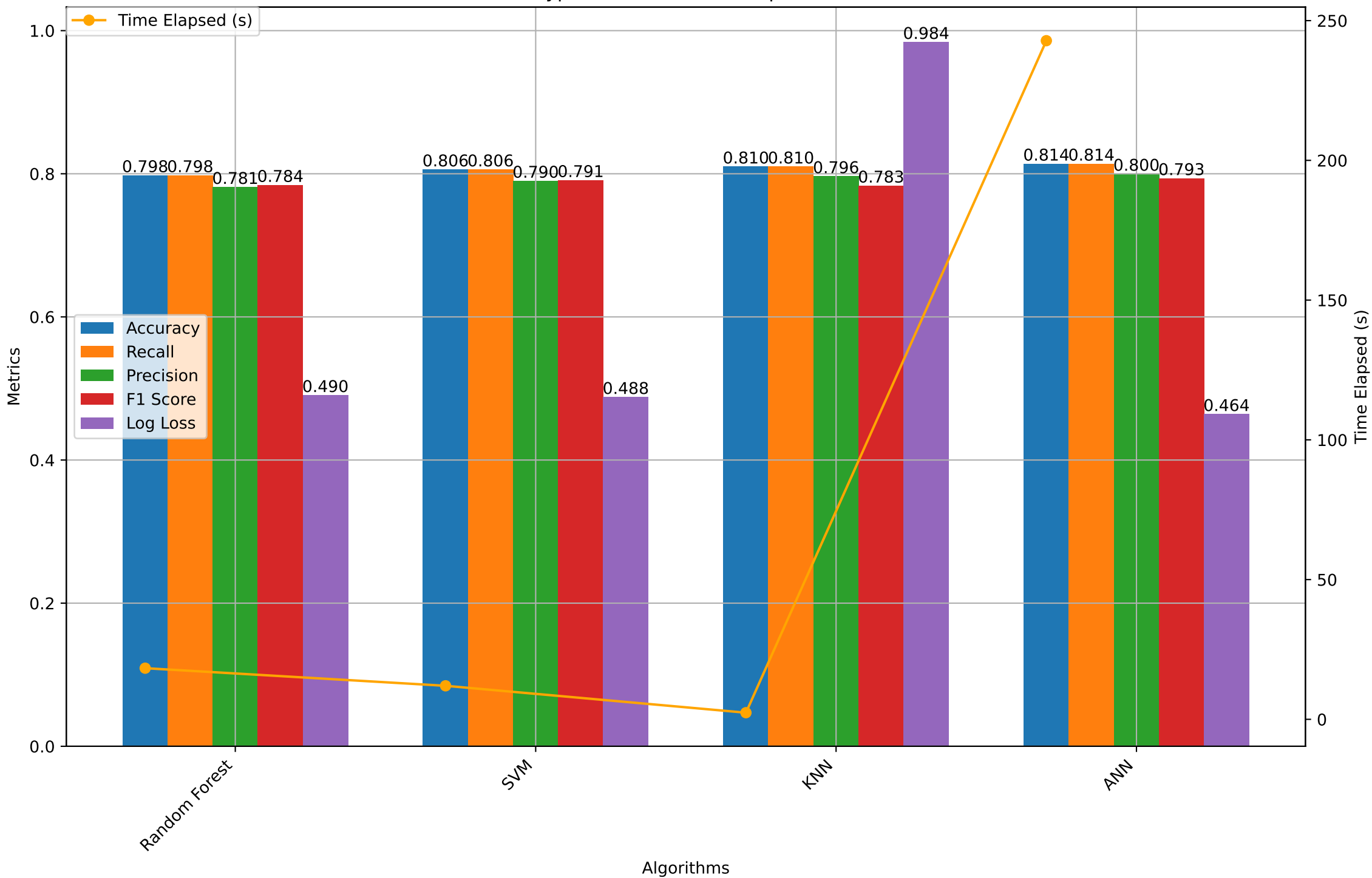
Grid Search - Metric Comparison



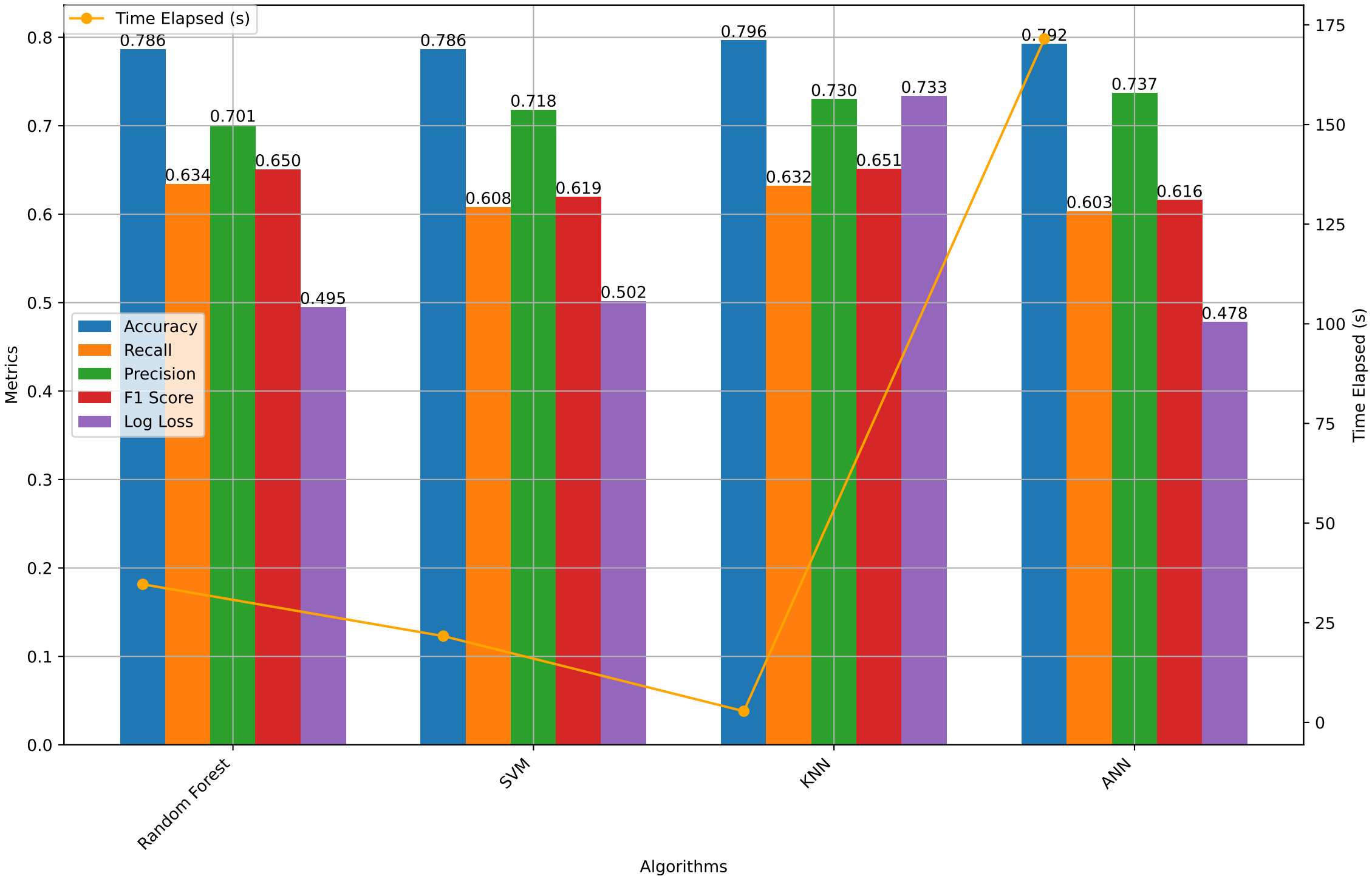
Random Search - Metric Comparison



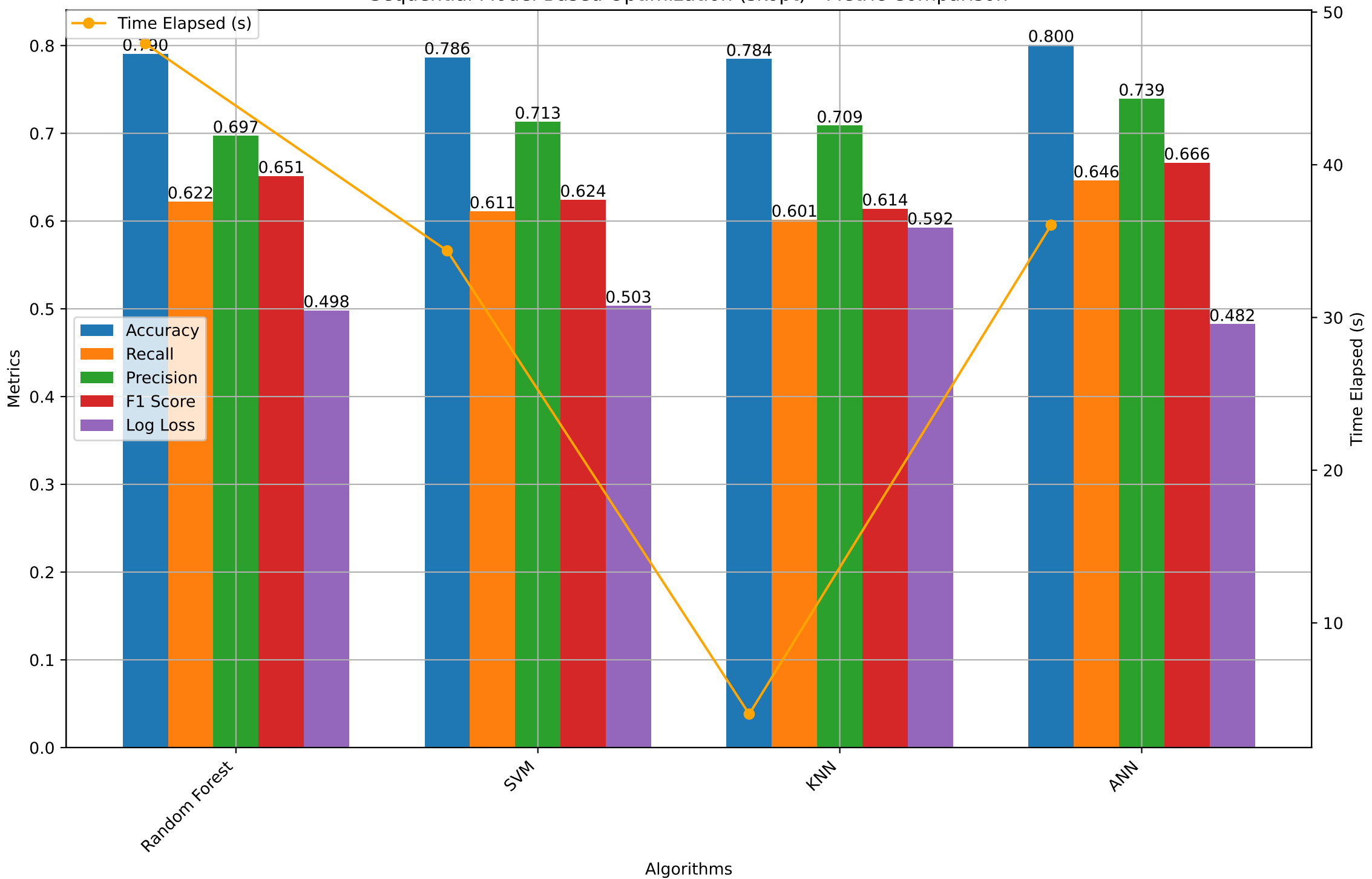
Hyperband - Metric Comparison



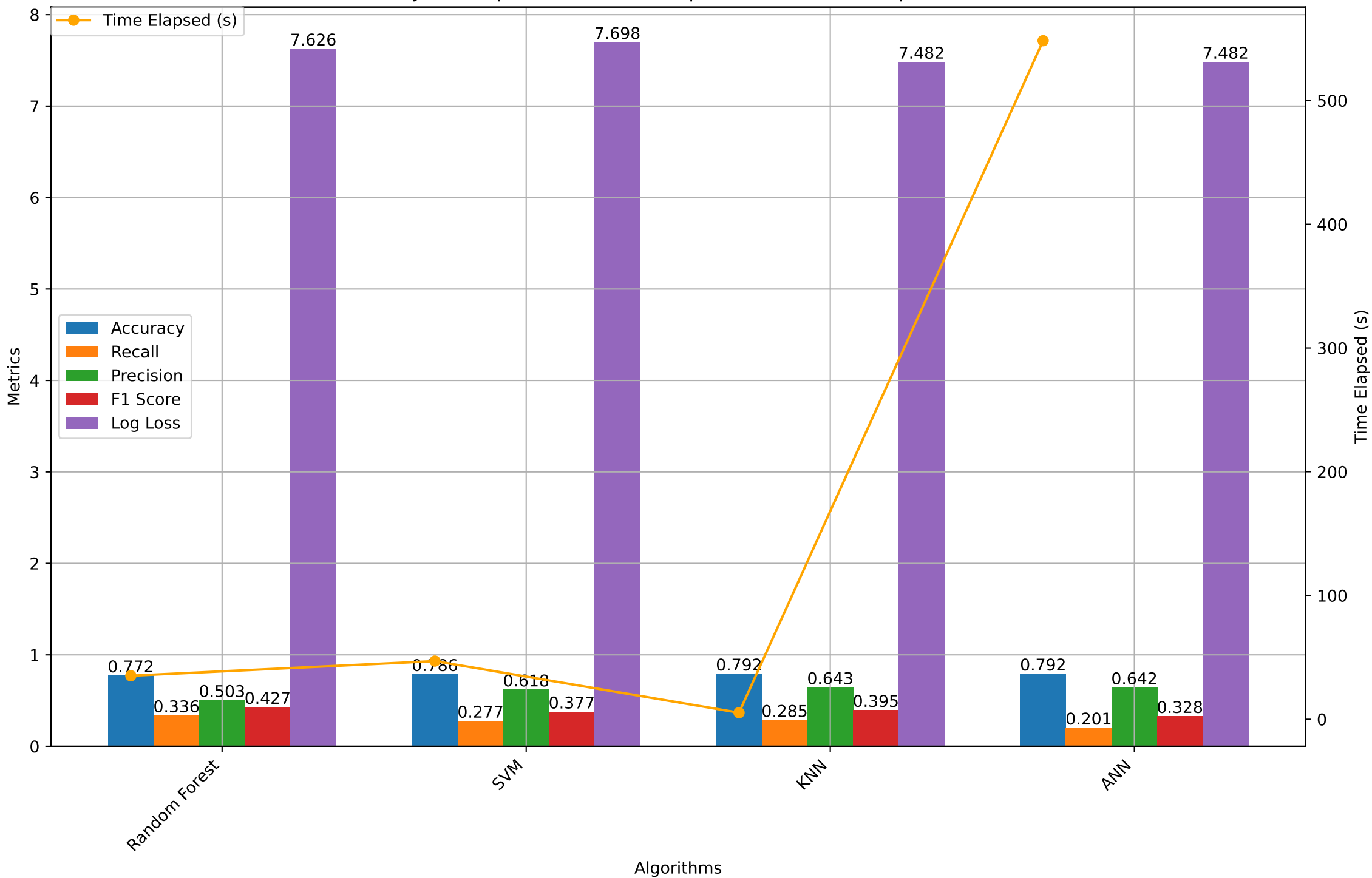
# Bayesian Optimization - Metric Comparison



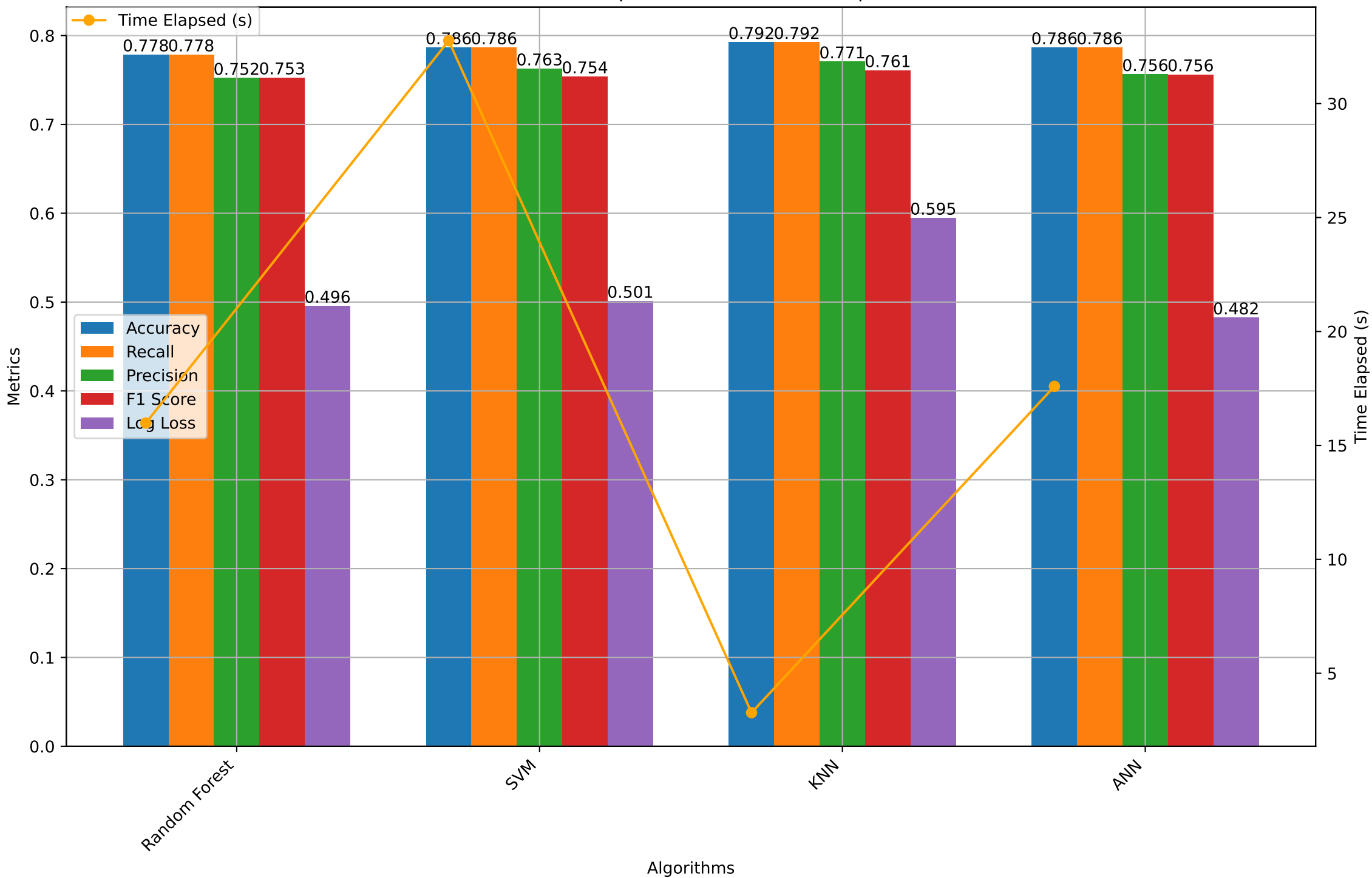
Sequential Model-Based Optimization (skopt) - Metric Comparison



Bayesian Optimization (scikit-optimize) - Metric Comparison

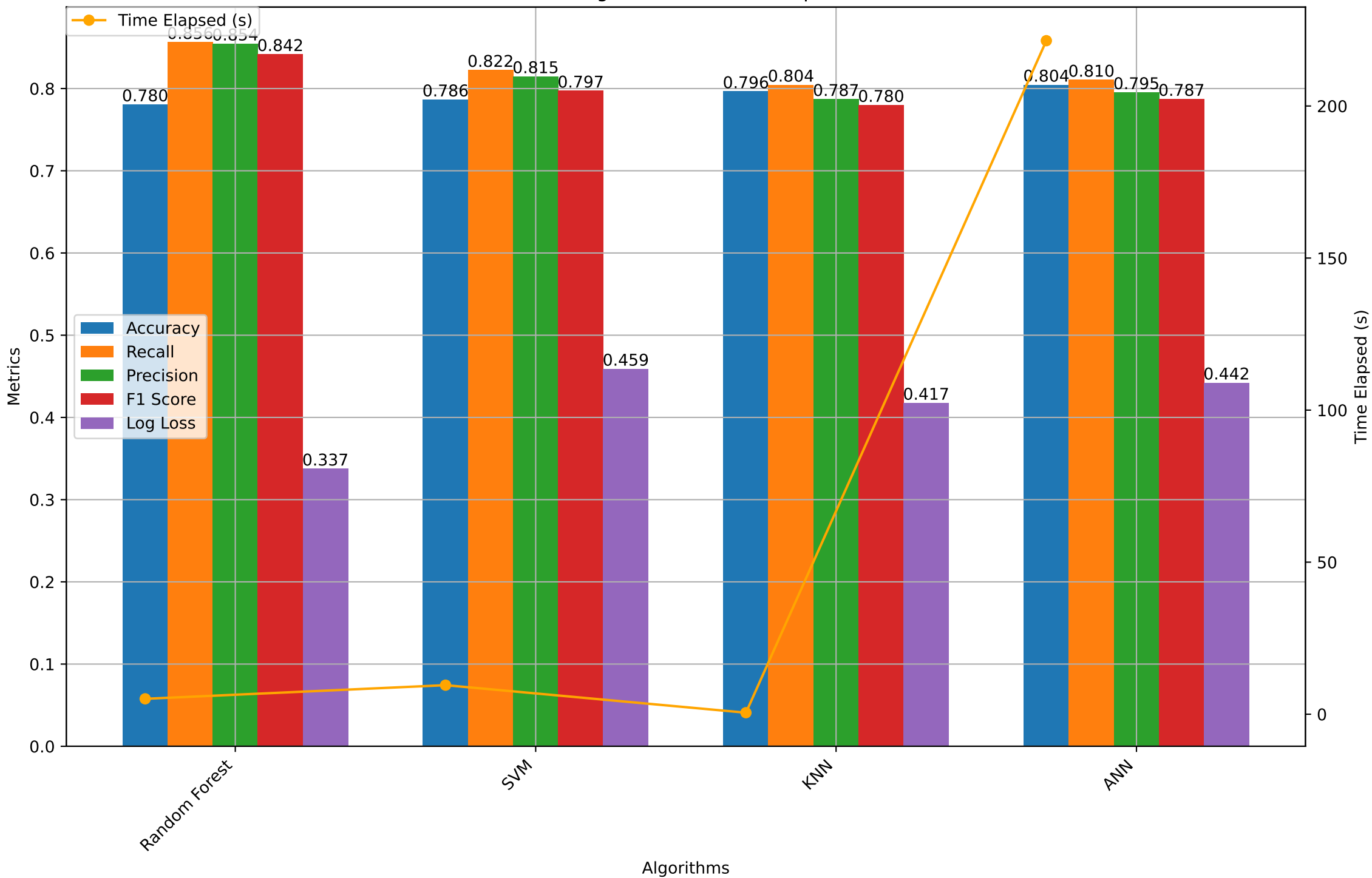


Particle Swarm Optimization - Metric Comparison

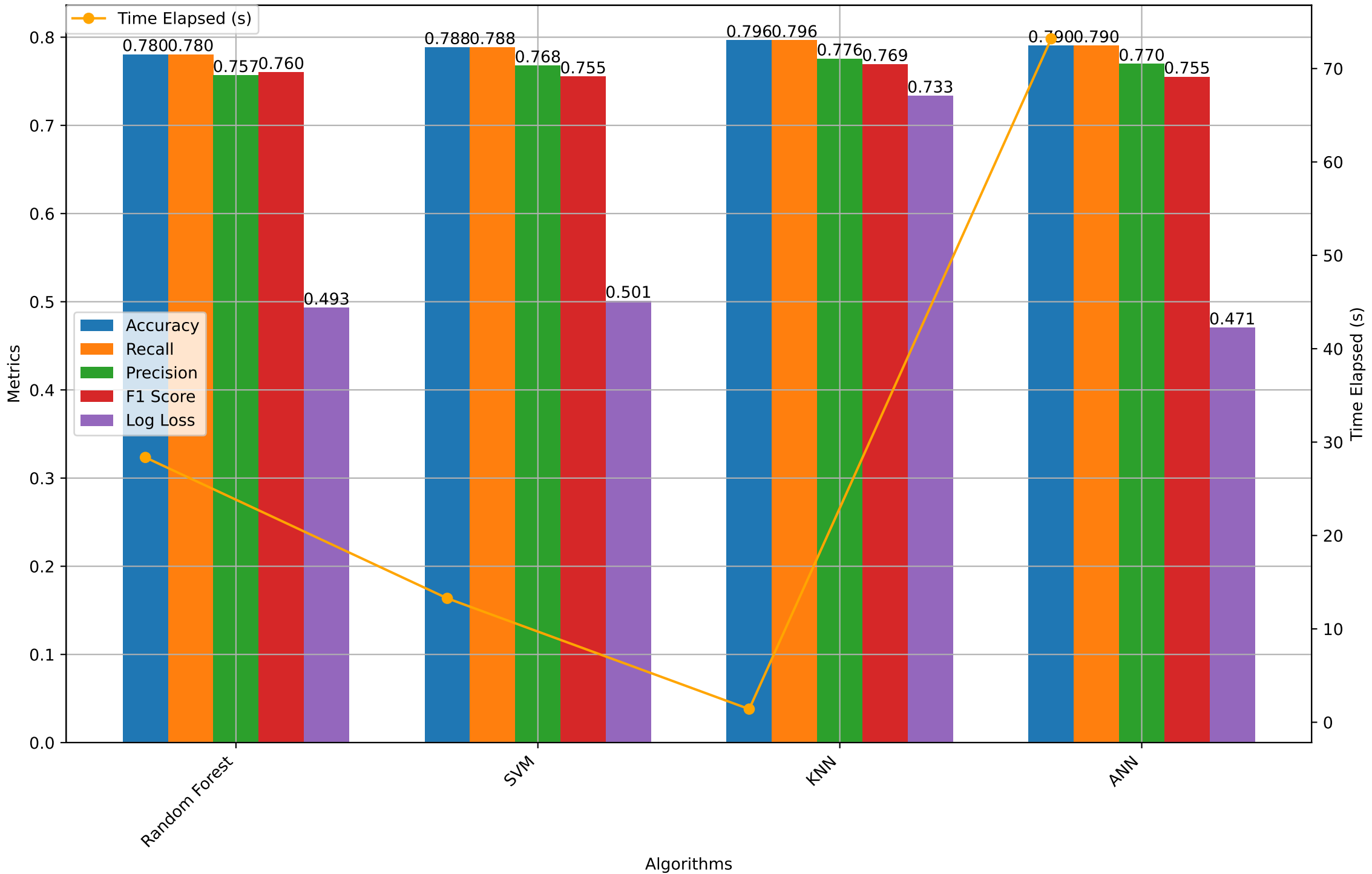




Genetic Algorithm - Metric Comparison



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	KNN	KNN	KNN	KNN	ANN	0.780439121756487	0.6243769033077596	0.6939959669002866	0.639037636095848	0.4868883412394413	KNN	0.11
Grid Search	KNN	Random Forest	ANN	KNN	ANN	0.7924151696606786	0.6243153875597282	0.7302374309880199	0.6346592777383737	0.4803427515856026	KNN	0.87
Random Search	KNN	KNN	ANN	KNN	ANN	0.7964071856287426	0.6320110076384683	0.7359731961217157	0.6508986720313832	0.480179778989372	KNN	1.5
Hyperband	ANN	ANN	ANN	ANN	ANN	0.8137651821862348	0.8137651821862348	0.7995750765057208	0.7934719116965778	0.4637976011170851	KNN	2.3727047443389893
Bayesian Optimization	KNN	Random Forest	ANN	KNN	ANN	0.7964071856287426	0.6341704207046234	0.7370215784950885	0.6508986720313832	0.4779109857895351	KNN	2.8
Sequential Model-Based Optimization (skopt)	ANN	ANN	ANN	ANN	ANN	0.8003992015968064	0.6460530023891244	0.7391495806846331	0.6663504095491192	0.4822635128586525	KNN	4.029978036880493
Bayesian Optimization (scikit-optimize)	KNN	Random Forest	KNN	Random Forest	KNN	0.7924151696606786	0.3361111111111111	0.6432748538011696	0.4273684424894102	7.482115673589189	KNN	5.29
Particle Swarm Optimization	KNN	KNN	KNN	KNN	ANN	0.7924151696606786	0.7924151696606786	0.7705612956164485	0.7607119510093224	0.4823982356152193	KNN	3.27
Genetic Algorithm	ANN	Random Forest	Random Forest	Random Forest	Random Forest	0.8043912175648703	0.8562874251497006	0.8544694025797037	0.8415904872778359	0.3374238783676503	KNN	0.5
TPOT	KNN	KNN	KNN	KNN	ANN	0.7964071856287426	0.7964071856287426	0.7755043116615307	0.7692500661969334	0.4705028379838372	KNN	1.41

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)
Hyperband	ANN	ANN	ANN	ANN	ANN	0.8137651821862348	0.8137651821862348	0.7995750765057208	0.7934719116965778	0.4637976011170851	KNN	2.3727047443389893