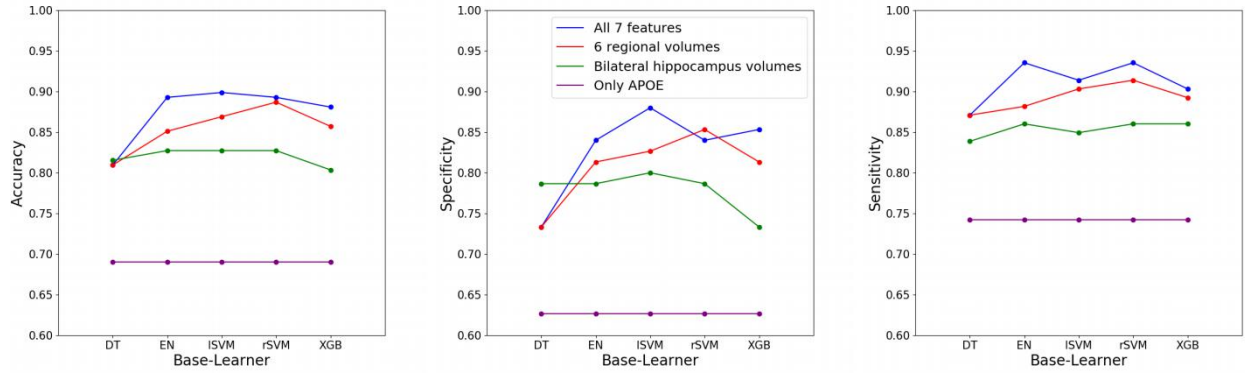# Appendix A Other Experiments

We also explored the quality of simpler classifiers, which only use a pre-defined set of regions like left and right (bilateral) hippocampus volumes (2 features) or a single genetic feature like APOE genotype. Figure A.1 shows the hold-out performance of the classifiers that only use (1) one APOE genotype, (2) the two hippocampus volumes (one left, and the other, right), (3) just the 6 grey-matter brain volumes, and (4) all of the 7 features; these numbers appear in Table A.1. The results show that the EN7 model performs statistically Significantly better than the simple classifiers – (1) and (2).

Table A.1. Test performance results using only APOE (first), bilateral hippocampus volumes (second), 6 se lected regional volumes (third), and all of the 7 selected features (last). The last rows of the first (APOE) andsecond (bilateral hippocampus volumes) sections of the table show the p-values of statistically comparing these simpler classifiers against our EN7 model.

	DT	EN	ℓSVM	rSVM	XGB
	Only APOE				
Accuracy	69.04	69.04	69.04	69.04	69.04
P-value	7.87E-8	7.87E-8	7.87E-8	7.87E-8	7.87E-8
Specificity	62.66	62.66	62.66	62.66	62.66
Sensitivity	74.19	74.19	74.19	74.19	74.19
	Only Bilateral Hippocampus Volumes				
Accuracy	81.54	82.73	82.73	82.73	80.35
P-value	0.0026	0.0118	0.0118	0.0118	0.0015
Specificity	78.66	78.66	80.00	78.66	73.33
Sensitivity	83.87	86.02	84.94	86.02	86.02
	6 Regional Volumes				
Accuracy	80.95	85.11	86.90	88.69	85.71
Specificity	73.33	81.33	82.66	85.33	81.33
Sensitivity	87.09	88.17	90.32	91.39	89.24
	All 7 Features				
Accuracy	80.95	89.28	89.88	89.28	88.09
Specificity	73.33	84.00	88.00	84.00	85.33
Sensitivity	87.09	93.54	91.39	93.54	90.32

Figure A.1: Test performance results – accuracy, specificity, and senstivity – of each base-learner, when using only APOE, bilateral hippocampus volumes, the 6 selected regional volumes, and all of the 7 selected features