Heritability, genetic variation, and the number of risk SNPs effect on deep learning and polygenic risk scores AUC

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1 Supplementary Material

This document contains the supplementary material referenced in the original manuscript.

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References

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Number of risk SNPs	Heritability	Genetic Variation	totalSNPeffect	deep learning AUC	PRSice AUC	Plink AUC	Lasso AUC
5	0.05263158	0.9	0.047368422	0.656	0.412	0.498	0.466
5	0.10526316	0.9	0.094736844	0.646	0.414	0.508	0.454
5	0.15789474	0.9	0.142105266	0.63	0.424	0.5	0.484
5	0.21052632	0.9	0.189473688	0.62	0.424	0.512	0.484
5	0.26315789	0.9	0.236842101	0.612	0.438	0.5	0.488
5	0.31578947	0.9	0.284210523	0.608	0.44	0.512	0.492
5	0.36842105	0.9	0.331578945	0.604	0.448	0.51	0.49
5	0.42105263	0.9	0.378947367	0.588	0.448	0.514	0.502
5	0.47368421	0.9	0.426315789	0.584	0.45399999999999996	0.502	0.5
5	0.52631579	0.9	0.473684211	0.572	0.454	0.498	0.488
5	0.57894737	0.9	0.521052633	0.566	0.446	0.498	0.496
5	0.63157895	0.9	0.568421055	0.56	0.458	0.502	0.492
5	0.68421053	0.9	0.615789477	0.566	0.45	0.506	0.494
5	0.73684211	0.9	0.663157899	0.548	0.474	0.508	0.498
5	0.78947368	0.9	0.710526312	0.54	0.482	0.51	0.496
5	0.84210526	0.9	0.757894734	0.54	0.46799999999999997	0.494	0.5
5	0.89473684	0.9	0.805263156	0.528	0.49	0.51	0.5
5	0.94736842	0.9	0.852631578	0.522	0.504	0.51	0.498
5	1.0	0.9	0.9	0.502	0.512	0.502	0.518
10	0.05263158	0.9	0.047368422	0.6839999999999999	0.412	0.496	0.464
10	0.10526316	0.9	0.094736844	0.672	0.39	0.496	0.47
10	0.15789474	0.9	0.142105266	0.656	0.40	0.514	0.47
10	0.21052632	0.9	0.189473688	0.65	0.422	0.514	0.478
10	0.26315789	0.9	0.236842101	0.638	0.422	0.516	0.47
10	0.31578947	0.9	0.284210523	0.626	0.418	0.512	0.474
10	0.36842105	0.9	0.331578945	0.62	0.424	0.5	0.474
10	0.42105263	0.9	0.378947367	0.606	0.434	0.502	0.474
10	0.47368421	0.9	0.426315789	0.6	0.436	0.5	0.478
10	0.52631579	0.9	0.473684211	0.592	0.45	0.506	0.488
10	0.57894737	0.9	0.521052633	0.578	0.444	0.506	0.49
10	0.63157895	0.9	0.568421055	0.572	0.456	0.496	0.488
10	0.68421053	0.9	0.615789477	0.565	0.4425	0.5025	0.5025
10	0.73684211	0.9	0.663157899	0.554	0.46799999999999997	0.51	0.504
10	0.78947368	0.9	0.710526312	0.5375000000000001	0.47750000000000004	0.5075000000000001	0.515
10	0.84210526	0.9	0.757894734	0.534	0.474	0.508	0.492
10	0.89473684	0.9	0.805263156	0.516	0.476	0.506	0.496
10	0.94736842	0.9	0.852631578	0.526	0.486	0.504	0.5
10	1.0	0.9	0.9	0.525	0.48	0.505	0.5075000000000001
20	0.05263158	0.9	0.047368422	0.65	0.426	0.494	0.46799999999999997
20	0.10526316	0.9	0.094736844	0.636	0.438	0.5	0.476
20	0.15789474	0.9	0.142105266	0.62	0.432	0.5	0.482
20	0.21052632	0.9	0.189473688	0.606	0.43	0.506	0.49
20	0.26315789	0.9	0.236842101	0.606	0.432	0.51	0.47
20	0.31578947	0.9	0.284210523	0.596	0.44	0.51	0.472
20	0.36842105	0.9	0.331578945	0.588	0.45	0.512	0.484
20	0.42105263	0.9	0.378947367	0.578	0.456	0.512	0.472
20	0.47368421	0.9	0.426315789	0.572	0.458	0.506	0.484
20	0.52631579	0.9	0.473684211	0.556	0.458	0.514	0.484
20	0.57894737	0.9	0.521052633	0.554	0.442	0.514	0.508
20	0.63157895	0.9	0.568421055	0.554	0.458	0.514	0.502
20	0.68421053	0.9	0.615789477	0.55	0.452	0.51	0.48
20	0.73684211	0.9	0.663157899	0.544	0.48	0.5	0.494
20	0.78947368	0.9	0.710526312	0.534	0.47	0.522	0.502
20	0.84210526	0.9	0.757894734	0.525	0.4775	0.52	0.495
20	0.89473684	0.9	0.805263156	0.518	0.486	0.502	0.504
20	0.94736842	0.9	0.852631578	0.514	0.472	0.51	0.506
20	1.0	0.9	0.9	0.506	0.5	0.52	0.52
50	0.05263158	0.9	0.047368422	0.65	0.4175	0.495	0.4725
50	0.10526316	0.9	0.094736844	0.628	0.45	0.5	0.482
50	0.15789474	0.9	0.142105266	0.616	0.434	0.498	0.472
50	0.21052632	0.9	0.189473688	0.61	0.44	0.492	0.472
50	0.26315789	0.9	0.236842101	0.608	0.452	0.51	0.49
50	0.31578947	0.9	0.284210523	0.598	0.45	0.496	0.488
50	0.36842105	0.9	0.331578945	0.592	0.444	0.5	0.494
50	0.42105263	0.9	0.378947367	0.58	0.472	0.512	0.496
50	0.47368421	0.9	0.426315789	0.57	0.466	0.498	0.498
50	0.52631579	0.9	0.473684211	0.5774999999999999	0.4625	0.5025	0.4925
50	0.57894737	0.9	0.521052633	0.554	0.466	0.514	0.492
50	0.63157895	0.9	0.568421055	0.546	0.464	0.502	0.482
50	0.68421053	0.9	0.615789477	0.544	0.46799999999999997	0.5	0.486
50	0.73684211	0.9	0.663157899	0.528	0.484	0.52	0.508
50	0.78947368	0.9	0.710526312	0.526	0.476	0.508	0.5
50	0.84210526	0.9	0.757894734	0.536	0.46799999999999997	0.508	0.504
50	0.89473684	0.9	0.805263156	0.518	0.474	0.512	0.502
50	0.94736842	0.9	0.852631578	0.546	0.46799999999999997	0.506	0.5
50	1.0	0.9	0.9	0.526	0.478	0.508	0.496
100	0.05263158	0.9	0.047368422	0.655	0.42	0.515	0.48
100	0.10526316	0.9	0.094736844	0.62	0.434	0.52	0.486
100	0.15789474	0.9	0.142105266	0.634	0.432	0.518	0.492
100	0.21052632	0.9	0.189473688	0.624	0.44	0.51	0.48
100	0.26315789	0.9	0.236842101	0.6225	0.4375	0.5175000000000001	0.4925
100	0.31578947	0.9	0.284210523	0.622	0.428	0.518	0.484
100	0.36842105	0.9	0.331578945	0.598	0.438	0.514	0.484
100	0.42105263	0.9	0.378947367	0.594	0.44	0.516	0.472
100	0.47368421	0.9	0.426315789	0.586	0.454	0.516	0.476
100	0.52631579	0.9	0.473684211	0.576	0.46	0.512	0.5
100	0.57894737	0.9	0.521052633	0.568	0.458	0.522	0.488
100	0.63157895	0.9	0.568421055	0.562	0.462	0.518	0.482
100	0.68421053	0.9	0.615789477	0.558	0.46799999999999997	0.52	0.502
100	0.73684211	0.9	0.663157899	0.55	0.46799999999999997	0.51	0.5
100	0.78947368	0.9	0.710526312	0.55	0.456	0.514	0.49
100	0.84210526	0.9	0.757894734	0.54	0.5	0.526	0.51
100	0.89473684	0.9	0.805263156	0.532	0.46399999999999997	0.522	0.5
100	0.94736842	0.9	0.852631578	0.524	0.494	0.51	0.492
100	1.0	0.9	0.9	0.5225	0.4875	0.5125	0.5075000000000001

Table 1. Results for genetic variation = 0.9.

Number of risk SNPs	Heritability	Genetic Variation	totalSNPeffect	deep learning AUC	PRSice AUC	Plink AUC	Lasso AUC
5	0.05263158	0.8	0.042105264	0.662	0.408	0.508	0.486
5	0.10526316	0.8	0.084210528	0.648	0.42	0.496	0.482
5	0.15789474	0.8	0.126315792	0.64	0.406	0.504	0.484
5	0.21052632	0.8	0.168421056	0.6275	0.43	0.51	0.45999999999999996
5	0.26315789	0.8	0.210526312	0.614	0.44	0.52	0.492
5	0.31578947	0.8	0.252631576	0.618	0.434	0.516	0.488
5	0.36842105	0.8	0.29473684	0.596	0.446	0.512	0.488
5	0.42105263	0.8	0.336842104	0.598	0.452	0.504	0.488
5	0.47368421	0.8	0.378947368	0.606	0.446	0.508	0.502
5	0.52631579	0.8	0.421052632	0.596	0.44	0.498	0.512
5	0.57894737	0.8	0.463157896	0.584	0.456	0.5	0.502
5	0.63157895	0.8	0.50526316	0.57	0.45	0.492	0.504
5	0.68421053	0.8	0.547368424	0.57	0.46499999999999997	0.4975	0.505
5	0.73684211	0.8	0.589473688	0.554	0.466	0.512	0.502
5	0.78947368	0.8	0.631578944	0.5525	0.47250000000000003	0.495	0.505
5	0.84210526	0.8	0.673684208	0.5525	0.4825	0.5	0.495
5	0.89473684	0.8	0.715789472	0.536	0.49	0.498	0.502
5	0.94736842	0.8	0.757894736	0.536	0.494	0.506	0.502
5	1.0	0.8	0.8	0.526	0.49	0.502	0.514
10	0.05263158	0.8	0.042105264	0.682	0.4	0.5	0.456
10	0.10526316	0.8	0.084210528	0.668	0.404	0.5	0.46599999999999997
10	0.15789474	0.8	0.126315792	0.662	0.408	0.498	0.46799999999999997
10	0.21052632	0.8	0.168421056	0.65	0.42	0.5175000000000001	0.48
10	0.26315789	0.8	0.210526312	0.646	0.422	0.512	0.484
10	0.31578947	0.8	0.252631576	0.646	0.422	0.502	0.474
10	0.36842105	0.8	0.29473684	0.63	0.424	0.506	0.478
10	0.42105263	0.8	0.336842104	0.625	0.43	0.4975	0.48
10	0.47368421	0.8	0.378947368	0.61	0.438	0.504	0.46599999999999997
10	0.52631579	0.8	0.421052632	0.596	0.456	0.502	0.478
10	0.57894737	0.8	0.463157896	0.584	0.446	0.5	0.492
10	0.63157895	0.8	0.50526316	0.584	0.452	0.502	0.494
10	0.68421053	0.8	0.547368424	0.578	0.446	0.506	0.484
10	0.73684211	0.8	0.589473688	0.572	0.454	0.504	0.492
10	0.78947368	0.8	0.631578944	0.548	0.458	0.51	0.496
10	0.84210526	0.8	0.673684208	0.55	0.46	0.494	0.496
10	0.89473684	0.8	0.715789472	0.544	0.478	0.512	0.498
10	0.94736842	0.8	0.757894736	0.542	0.48	0.504	0.502
10	1.0	0.8	0.8	0.55	0.456	0.514	0.498
20	0.05263158	0.8	0.042105264	0.648	0.418	0.486	0.47400000000000003
20	0.10526316	0.8	0.084210528	0.626	0.434	0.498	0.486
20	0.15789474	0.8	0.126315792	0.628	0.424	0.49	0.494
20	0.21052632	0.8	0.168421056	0.612	0.428	0.504	0.486
20	0.26315789	0.8	0.210526312	0.606	0.42	0.508	0.478
20	0.31578947	0.8	0.252631576	0.5874999999999999	0.435	0.4975	0.4825
20	0.36842105	0.8	0.29473684	0.586	0.444	0.506	0.476
20	0.42105263	0.8	0.336842104	0.58	0.45	0.518	0.498
20	0.47368421	0.8	0.378947368	0.57	0.454	0.512	0.478
20	0.52631579	0.8	0.421052632	0.5660000000000001	0.446	0.51	0.49
20	0.57894737	0.8	0.463157896	0.5640000000000001	0.448	0.504	0.476
20	0.63157895	0.8	0.50526316	0.558	0.46	0.512	0.488
20	0.68421053	0.8	0.547368424	0.544	0.46799999999999997	0.512	0.498
20	0.73684211	0.8	0.589473688	0.542	0.466	0.516	0.492
20	0.78947368	0.8	0.631578944	0.544	0.46799999999999997	0.506	0.492
20	0.84210526	0.8	0.673684208	0.526	0.492	0.504	0.504
20	0.89473684	0.8	0.715789472	0.524	0.486	0.51	0.504
20	0.94736842	0.8	0.757894736	0.528	0.492	0.514	0.514
20	1.0	0.8	0.8	0.545	0.51	0.5075000000000001	0.5
50	0.05263158	0.8	0.042105264	0.65	0.416	0.49	0.476
50	0.10526316	0.8	0.084210528	0.632	0.422	0.5	0.476
50	0.15789474	0.8	0.126315792	0.622	0.44	0.494	0.48
50	0.21052632	0.8	0.168421056	0.624	0.444	0.5	0.478
50	0.26315789	0.8	0.210526312	0.604	0.448	0.494	0.492
50	0.31578947	0.8	0.252631576	0.604	0.452	0.504	0.484
50	0.36842105	0.8	0.29473684	0.602	0.468	0.502	0.502
50	0.42105263	0.8	0.336842104	0.5874999999999999	0.4625	0.5125	0.49
50	0.47368421	0.8	0.378947368	0.592	0.456	0.504	0.492
50	0.52631579	0.8	0.421052632	0.57	0.458	0.506	0.472
50	0.57894737	0.8	0.463157896	0.57	0.462	0.506	0.49
50	0.63157895	0.8	0.50526316	0.5640000000000001	0.47000000000000003	0.498	0.496
50	0.68421053	0.8	0.547368424	0.5599999999999999	0.462	0.5	0.482
50	0.73684211	0.8	0.589473688	0.552	0.46799999999999997	0.504	0.494
50	0.78947368	0.8	0.631578944	0.55	0.508	0.512	0.506
50	0.84210526	0.8	0.673684208	0.5700000000000001	0.46499999999999997	0.53	0.49
50	0.89473684	0.8	0.715789472	0.528	0.474	0.51	0.492
50	0.94736842	0.8	0.757894736	0.538	0.482	0.494	0.508
50	1.0	0.8	0.8	0.538	0.484	0.502	0.506
100	0.05263158	0.8	0.042105264	0.66	0.418	0.514	0.492
100	0.10526316	0.8	0.084210528	0.65	0.418	0.514	0.48
100	0.15789474	0.8	0.126315792	0.648	0.424	0.508	0.48
100	0.21052632	0.8	0.168421056	0.636	0.426	0.512	0.494
100	0.26315789	0.8	0.210526312	0.632	0.432	0.522	0.48
100	0.31578947	0.8	0.252631576	0.626	0.434	0.526	0.476
100	0.36842105	0.8	0.29473684	0.608	0.444	0.516	0.482
100	0.42105263	0.8	0.336842104	0.606	0.436	0.512	0.478
100	0.47368421	0.8	0.378947368	0.598	0.456	0.52	0.484
100	0.52631579	0.8	0.421052632	0.59	0.4525	0.515	0.4825
100	0.57894737	0.8	0.463157896	0.592	0.452	0.518	0.488
100	0.63157895	0.8	0.50526316	0.58	0.454	0.524	0.482
100	0.68421053	0.8	0.547368424	0.5640000000000001	0.456	0.512	0.494
100	0.73684211	0.8	0.589473688	0.57	0.472	0.524	0.494
100	0.78947368	0.8	0.631578944	0.55	0.494	0.516	0.502
100	0.84210526	0.8	0.673684208	0.542	0.46799999999999997	0.514	0.502
100	0.89473684	0.8	0.715789472	0.538	0.47	0.538	0.506
100	0.94736842	0.8	0.757894736	0.528	0.474	0.514	0.5
100	1.0	0.8	0.8	0.522	0.506	0.51	0.514

Table 2. Results for genetic variation = 0.8.

Number of risk SNPs	Heritability	Genetic Variation	totalSNPeffect	deep learning AUC	PRSice AUC	Plink AUC	Lasso AUC
5	0.05263158	0.7	0.036842106	0.658	0.416	0.496	0.484
5	0.10526316	0.7	0.073684212	0.66	0.436	0.496	0.494
5	0.15789474	0.7	0.110526318	0.642	0.432	0.502	0.49
5	0.21052632	0.7	0.147368424	0.63	0.446	0.498	0.488
5	0.26315789	0.7	0.184210523	0.626	0.446	0.504	0.5
5	0.31578947	0.7	0.221052629	0.62	0.434	0.498	0.498
5	0.36842105	0.7	0.257894735	0.622	0.444	0.502	0.498
5	0.42105263	0.7	0.294736841	0.612	0.444	0.496	0.482
5	0.47368421	0.7	0.331578947	0.596	0.456	0.5	0.492
5	0.52631579	0.7	0.368421053	0.594	0.452	0.508	0.496
5	0.57894737	0.7	0.405263159	0.5974999999999999	0.435	0.5025	0.4875
5	0.63157895	0.7	0.442105265	0.585	0.455	0.4975	0.4825
5	0.68421053	0.7	0.478947371	0.5925	0.4625	0.4875	0.4825
5	0.73684211	0.7	0.515789477	0.578	0.456	0.504	0.488
5	0.78947368	0.7	0.552631576	0.566	0.456	0.502	0.492
5	0.84210526	0.7	0.589473682	0.572	0.468	0.492	0.506
5	0.89473684	0.7	0.626315788	0.552	0.466	0.492	0.488
5	0.94736842	0.7	0.663157894	0.546	0.478	0.496	0.508
5	1.0	0.7	0.7	0.536	0.472	0.5	0.502
10	0.05263158	0.7	0.036842106	0.678	0.418	0.5	0.484
10	0.10526316	0.7	0.073684212	0.67	0.41200000000000003	0.508	0.46599999999999997
10	0.15789474	0.7	0.110526318	0.658	0.402	0.51	0.47600000000000003
10	0.21052632	0.7	0.147368424	0.658	0.414	0.516	0.47
10	0.26315789	0.7	0.184210523	0.644	0.412	0.502	0.474
10	0.31578947	0.7	0.221052629	0.638	0.424	0.512	0.474
10	0.36842105	0.7	0.257894735	0.632	0.428	0.51	0.476
10	0.42105263	0.7	0.294736841	0.624	0.428	0.504	0.486
10	0.47368421	0.7	0.331578947	0.61	0.432	0.512	0.488
10	0.52631579	0.7	0.368421053	0.61	0.44	0.496	0.49
10	0.57894737	0.7	0.405263159	0.61	0.436	0.506	0.49
10	0.63157895	0.7	0.442105265	0.59	0.448	0.502	0.482
10	0.68421053	0.7	0.478947371	0.594	0.456	0.506	0.508
10	0.73684211	0.7	0.515789477	0.588	0.452	0.5	0.488
10	0.78947368	0.7	0.552631576	0.578	0.454	0.506	0.488
10	0.84210526	0.7	0.589473682	0.576	0.458	0.5	0.5
10	0.89473684	0.7	0.626315788	0.57	0.454	0.512	0.502
10	0.94736842	0.7	0.663157894	0.5640000000000001	0.452	0.508	0.502
10	1.0	0.7	0.7	0.57	0.454	0.492	0.498
20	0.05263158	0.7	0.036842106	0.66	0.424	0.482	0.472
20	0.10526316	0.7	0.073684212	0.63	0.424	0.48	0.486
20	0.15789474	0.7	0.110526318	0.634	0.416	0.498	0.482
20	0.21052632	0.7	0.147368424	0.608	0.44	0.498	0.486
20	0.26315789	0.7	0.184210523	0.608	0.43	0.504	0.472
20	0.31578947	0.7	0.221052629	0.598	0.44	0.504	0.486
20	0.36842105	0.7	0.257894735	0.592	0.458	0.5	0.478
20	0.42105263	0.7	0.294736841	0.596	0.456	0.506	0.486
20	0.47368421	0.7	0.331578947	0.592	0.442	0.51	0.48
20	0.52631579	0.7	0.368421053	0.574	0.458	0.502	0.494
20	0.57894737	0.7	0.405263159	0.558	0.458	0.502	0.488
20	0.63157895	0.7	0.442105265	0.562	0.452	0.506	0.484
20	0.68421053	0.7	0.478947371	0.562	0.458	0.514	0.492
20	0.73684211	0.7	0.515789477	0.548	0.46	0.514	0.498
20	0.78947368	0.7	0.552631576	0.54	0.47	0.516	0.508
20	0.84210526	0.7	0.589473682	0.546	0.46399999999999997	0.5	0.49
20	0.89473684	0.7	0.626315788	0.536	0.46599999999999997	0.506	0.51
20	0.94736842	0.7	0.663157894	0.544	0.49	0.508	0.506
20	1.0	0.7	0.7	0.5525	0.4625	0.51	0.51
50	0.05263158	0.7	0.036842106	0.6575	0.43	0.5	0.4725
50	0.10526316	0.7	0.073684212	0.65	0.418	0.492	0.478
50	0.15789474	0.7	0.110526318	0.64	0.446	0.504	0.46
50	0.21052632	0.7	0.147368424	0.634	0.442	0.496	0.484
50	0.26315789	0.7	0.184210523	0.624	0.442	0.5	0.48
50	0.31578947	0.7	0.221052629	0.618	0.45	0.5	0.474
50	0.36842105	0.7	0.257894735	0.6	0.442	0.508	0.492
50	0.42105263	0.7	0.294736841	0.604	0.462	0.496	0.492
50	0.47368421	0.7	0.331578947	0.6	0.456	0.498	0.494
50	0.52631579	0.7	0.368421053	0.584	0.454	0.506	0.488
50	0.57894737	0.7	0.405263159	0.59	0.454	0.502	0.506
50	0.63157895	0.7	0.442105265	0.584	0.452	0.502	0.492
50	0.68421053	0.7	0.478947371	0.568	0.46799999999999997	0.5	0.5
50	0.73684211	0.7	0.515789477	0.552	0.486	0.504	0.488
50	0.78947368	0.7	0.552631576	0.556	0.47	0.506	0.492
50	0.84210526	0.7	0.589473682	0.542	0.454	0.496	0.494
50	0.89473684	0.7	0.626315788	0.552	0.478	0.498	0.514
50	0.94736842	0.7	0.663157894	0.544	0.46799999999999997	0.506	0.492
50	1.0	0.7	0.7	0.5660000000000001	0.466	0.502	0.492
100	0.05263158	0.7	0.036842106	0.67	0.424	0.516	0.488
100	0.10526316	0.7	0.073684212	0.652	0.422	0.508	0.472
100	0.15789474	0.7	0.110526318	0.656	0.438	0.512	0.482
100	0.21052632	0.7	0.147368424	0.6525000000000001	0.44	0.515	0.4925
100	0.26315789	0.7	0.184210523	0.638	0.432	0.504	0.478
100	0.31578947	0.7	0.221052629	0.632	0.432	0.506	0.492
100	0.36842105	0.7	0.257894735	0.622	0.43	0.512	0.484
100	0.42105263	0.7	0.294736841	0.6174999999999999	0.4375	0.5125	0.48
100	0.47368421	0.7	0.331578947	0.612	0.436	0.514	0.494
100	0.52631579	0.7	0.368421053	0.602	0.436	0.52	0.504
100	0.57894737	0.7	0.405263159	0.602	0.438	0.518	0.492
100	0.63157895	0.7	0.442105265	0.59	0.446	0.508	0.5
100	0.68421053	0.7	0.478947371	0.582	0.46	0.514	0.492
100	0.73684211	0.7	0.515789477	0.574	0.45	0.524	0.498
100	0.78947368	0.7	0.552631576	0.58	0.456	0.52	0.496
100	0.84210526	0.7	0.589473682	0.562	0.452	0.512	0.486
100	0.89473684	0.7	0.626315788	0.566	0.464	0.516	0.496
100	0.94736842	0.7	0.663157894	0.546	0.474	0.516	0.492
100	1.0	0.7	0.7	0.554	0.47000000000000003	0.516	0.5

Table 3. Results for genetic variation = 0.7.

Number of risk SNPs	Heritability	Genetic Variation	totalSNPeffect	deep learning AUC	PRSice AUC	Plink AUC	Lasso AUC
5	0.05263158	0.6	0.031578948	0.656	0.426	0.508	0.492
5	0.10526316	0.6	0.063157896	0.65	0.41400000000000003	0.492	0.46599999999999997
5	0.15789474	0.6	0.094736844	0.65	0.416	0.494	0.488
5	0.21052632	0.6	0.126315792	0.646	0.424	0.496	0.482
5	0.26315789	0.6	0.157894734	0.638	0.432	0.492	0.47
5	0.31578947	0.6	0.189473682	0.632	0.434	0.496	0.496
5	0.36842105	0.6	0.22105263	0.638	0.442	0.492	0.474
5	0.42105263	0.6	0.252631578	0.618	0.436	0.504	0.486
5	0.47368421	0.6	0.284210526	0.6225	0.445	0.505	0.4925
5	0.52631579	0.6	0.315789474	0.602	0.446	0.502	0.488
5	0.57894737	0.6	0.347368422	0.608	0.446	0.496	0.486
5	0.63157895	0.6	0.37894737	0.594	0.448	0.506	0.488
5	0.68421053	0.6	0.410526318	0.59	0.444	0.498	0.492
5	0.73684211	0.6	0.442105266	0.588	0.46	0.504	0.496
5	0.78947368	0.6	0.473684208	0.586	0.456	0.494	0.494
5	0.84210526	0.6	0.505263156	0.576	0.45	0.496	0.484
5	0.89473684	0.6	0.536842104	0.5700000000000001	0.47400000000000003	0.494	0.492
5	0.94736842	0.6	0.568421052	0.57	0.4525	0.49	0.49
5	1.0	0.6	0.6	0.5525	0.46	0.4925	0.5075000000000001
10	0.05263158	0.6	0.031578948	0.682	0.41	0.51	0.46599999999999997
10	0.10526316	0.6	0.063157896	0.676	0.40199999999999997	0.512	0.472
10	0.15789474	0.6	0.094736844	0.67	0.402	0.512	0.472
10	0.21052632	0.6	0.126315792	0.644	0.40599999999999997	0.5	0.482
10	0.26315789	0.6	0.157894734	0.642	0.42	0.506	0.482
10	0.31578947	0.6	0.189473682	0.652	0.426	0.512	0.5
10	0.36842105	0.6	0.22105263	0.626	0.434	0.5	0.48
10	0.42105263	0.6	0.252631578	0.63	0.432	0.498	0.474
10	0.47368421	0.6	0.284210526	0.622	0.424	0.504	0.486
10	0.52631579	0.6	0.315789474	0.61	0.432	0.506	0.488
10	0.57894737	0.6	0.347368422	0.62	0.432	0.494	0.488
10	0.63157895	0.6	0.37894737	0.612	0.438	0.498	0.49
10	0.68421053	0.6	0.410526318	0.608	0.442	0.486	0.47
10	0.73684211	0.6	0.442105266	0.602	0.45	0.498	0.492
10	0.78947368	0.6	0.473684208	0.594	0.444	0.498	0.498
10	0.84210526	0.6	0.505263156	0.588	0.454	0.494	0.496
10	0.89473684	0.6	0.536842104	0.585	0.455	0.5075000000000001	0.495
10	0.94736842	0.6	0.568421052	0.576	0.47	0.5	0.494
10	1.0	0.6	0.6	0.572	0.446	0.502	0.5
20	0.05263158	0.6	0.031578948	0.654	0.41	0.478	0.482
20	0.10526316	0.6	0.063157896	0.646	0.414	0.48	0.472
20	0.15789474	0.6	0.094736844	0.634	0.40399999999999997	0.49	0.488
20	0.21052632	0.6	0.126315792	0.618	0.438	0.496	0.494
20	0.26315789	0.6	0.157894734	0.62	0.425	0.4925	0.47250000000000003
20	0.31578947	0.6	0.189473682	0.604	0.43	0.502	0.48
20	0.36842105	0.6	0.22105263	0.594	0.44	0.498	0.496
20	0.42105263	0.6	0.252631578	0.586	0.448	0.504	0.484
20	0.47368421	0.6	0.284210526	0.578	0.456	0.488	0.49
20	0.52631579	0.6	0.315789474	0.57	0.456	0.51	0.474
20	0.57894737	0.6	0.347368422	0.5680000000000001	0.454	0.502	0.488
20	0.63157895	0.6	0.37894737	0.57	0.452	0.5	0.484
20	0.68421053	0.6	0.410526318	0.574	0.44	0.496	0.49
20	0.73684211	0.6	0.442105266	0.558	0.448	0.51	0.488
20	0.78947368	0.6	0.473684208	0.566	0.466	0.512	0.508
20	0.84210526	0.6	0.505263156	0.555	0.475	0.505	0.4975
20	0.89473684	0.6	0.536842104	0.556	0.462	0.506	0.494
20	0.94736842	0.6	0.568421052	0.56	0.46799999999999997	0.516	0.498
20	1.0	0.6	0.6	0.554	0.47000000000000003	0.516	0.496
50	0.05263158	0.6	0.031578948	0.658	0.426	0.498	0.484
50	0.10526316	0.6	0.063157896	0.646	0.434	0.496	0.48
50	0.15789474	0.6	0.094736844	0.646	0.42	0.49	0.478
50	0.21052632	0.6	0.126315792	0.642	0.436	0.5	0.48
50	0.26315789	0.6	0.157894734	0.632	0.442	0.506	0.46799999999999997
50	0.31578947	0.6	0.189473682	0.618	0.444	0.506	0.48
50	0.36842105	0.6	0.22105263	0.618	0.434	0.494	0.47
50	0.42105263	0.6	0.252631578	0.612	0.45	0.504	0.486
50	0.47368421	0.6	0.284210526	0.608	0.442	0.5	0.494
50	0.52631579	0.6	0.315789474	0.604	0.444	0.502	0.49
50	0.57894737	0.6	0.347368422	0.598	0.444	0.496	0.496
50	0.63157895	0.6	0.37894737	0.584	0.456	0.494	0.484
50	0.68421053	0.6	0.410526318	0.5825	0.45	0.4975	0.49
50	0.73684211	0.6	0.442105266	0.578	0.456	0.5	0.486
50	0.78947368	0.6	0.473684208	0.574	0.45	0.494	0.494
50	0.84210526	0.6	0.505263156	0.568	0.462	0.51	0.492
50	0.89473684	0.6	0.536842104	0.5625	0.46499999999999997	0.51	0.4975
50	0.94736842	0.6	0.568421052	0.5640000000000001	0.46399999999999997	0.502	0.484
50	1.0	0.6	0.6	0.5640000000000001	0.45	0.506	0.484
100	0.05263158	0.6	0.031578948	0.662	0.42	0.512	0.498
100	0.10526316	0.6	0.063157896	0.666	0.44	0.518	0.496
100	0.15789474	0.6	0.094736844	0.662	0.422	0.496	0.486
100	0.21052632	0.6	0.126315792	0.654	0.416	0.514	0.49
100	0.26315789	0.6	0.157894734	0.636	0.43	0.51	0.488
100	0.31578947	0.6	0.189473682	0.642	0.44	0.512	0.508
100	0.36842105	0.6	0.22105263	0.622	0.434	0.504	0.494
100	0.42105263	0.6	0.252631578	0.628	0.446	0.502	0.484
100	0.47368421	0.6	0.284210526	0.615	0.4425	0.5075000000000001	0.49
100	0.52631579	0.6	0.315789474	0.618	0.436	0.512	0.474
100	0.57894737	0.6	0.347368422	0.608	0.436	0.504	0.494
100	0.63157895	0.6	0.37894737	0.61	0.446	0.526	0.502
100	0.68421053	0.6	0.410526318	0.598	0.442	0.51	0.484
100	0.73684211	0.6	0.442105266	0.592	0.46	0.508	0.498
100	0.78947368	0.6	0.473684208	0.576	0.446	0.526	0.496
100	0.84210526	0.6	0.505263156	0.578	0.458	0.512	0.486
100	0.89473684	0.6	0.536842104	0.576	0.454	0.518	0.494
100	0.94736842	0.6	0.568421052	0.572	0.46599999999999997	0.514	0.498
100	1.0	0.6	0.6	0.555	0.48	0.505	0.505

Table 4. Results for genetic variation = 0.6.