

Logs:

Learning Rate is 0.1 when changing the Iterations and Iterations is 100 when changing the Learning Rate.

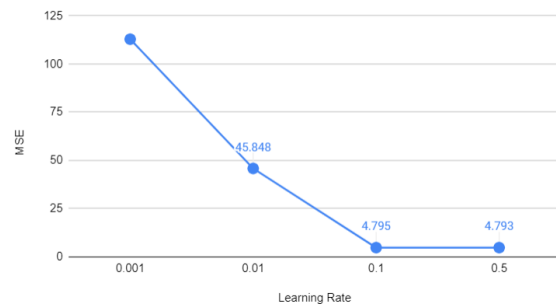
Training Data		Training Data		Training Data		Training Data	
Iterations	MSE	Iterations	R2	Learning Rate	MSE	Learning Rate	R2
50	4.848	50	0.507	0.001	112.848	0.001	-265.977
75	4.797	75	0.517	0.01	45.848	0.01	-43.069
100	4.795	100	0.517	0.1	4.795	0.1	0.517
1000	4.793	1000	0.518	0.5	4.793	0.5	0.518
Testing Data		Testing Data		Testing Data		Testing Data	
Iterations	MSE	Iterations	R2	Learning Rate	MSE	Learning Rate	R2
50	4.969	50	0.474	0.001	111.911	0.001	-265.689
75	4.842	75	0.5	0.01	46.39	0.01	-44.828
100	4.824	100	0.504	0.1	4.824	0.1	0.504
1000	4.813	1000	0.506	0.5	4.813	0.5	0.506

Training Data(Built-in Library)		Training Data		Training Data		Training Data	
Iterations	MSE	Iterations	R2	Learning Rate	MSE	Learning Rate	R2
50	4.801	50	0.516	0.001	4.797	0.001	0.517
75	4.804	75	0.516	0.01	4.794	0.01	0.518
100	4.83	100	0.51	0.1	4.933	0.1	0.489
1000	4.85	1000	0.506	0.5	5.055	0.5	0.464
Testing Data		Testing Data		Testing Data		Testing Data	
Iterations	MSE	Iterations	R2	Learning Rate	MSE	Learning Rate	R2
50	4.835	50	0.502	0.001	4.821	0.001	0.505
75	4.843	75	0.5	0.01	4.82	0.01	0.505
100	4.837	100	0.501	0.1	4.928	0.1	0.482
1000	4.869	1000	0.494	0.5	5.073	0.5	0.451

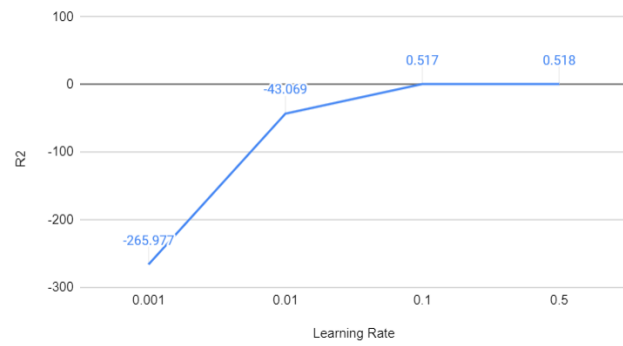
Plots:



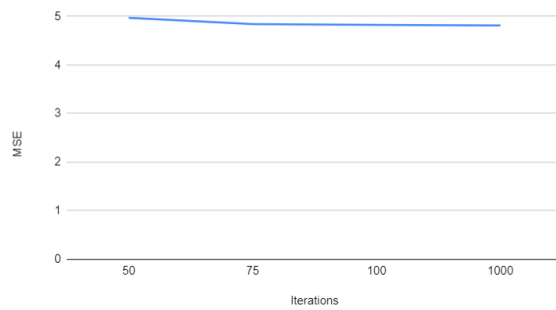
Training Data(Personal Model): MSE vs. Learning Rate



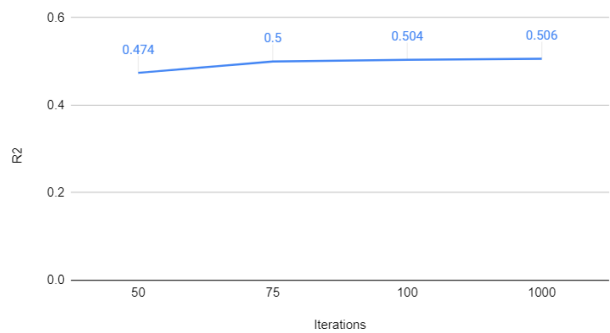
Training Data(Personal Model): R2 vs. Learning Rate



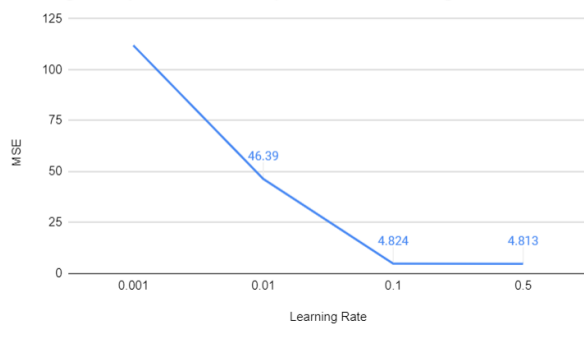
Testing Data(Personal Model): MSE vs. Iterations



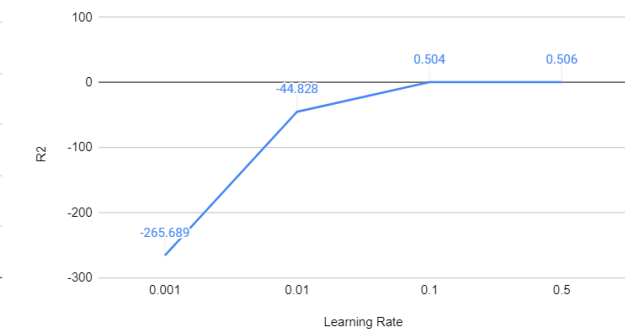
Testing Data(Personal Model): R2 vs. Iterations



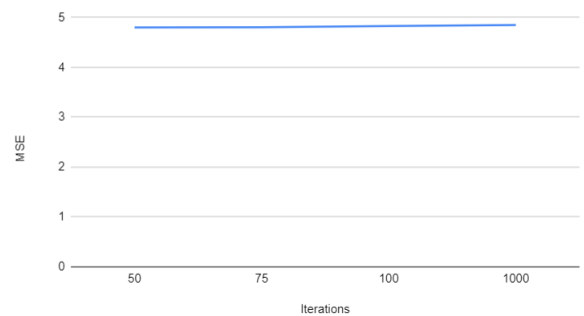
Testing Data(Personal Model): MSE vs. Learning Rate



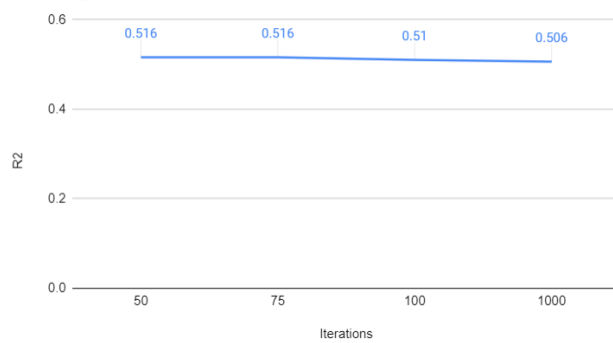
Testing Data(Personal Model): R2 vs. Learning Rate



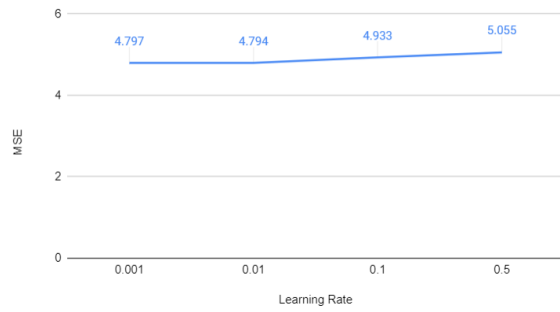
Training Data(Built-in Model): MSE vs. Iterations



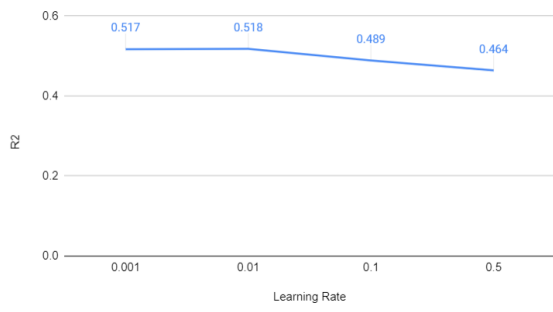
Training Data(Built-in Model): R2 vs. Iterations



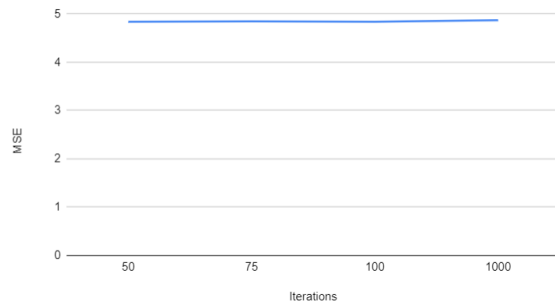
Training Data(Built-in Model): MSE vs. Learning Rate



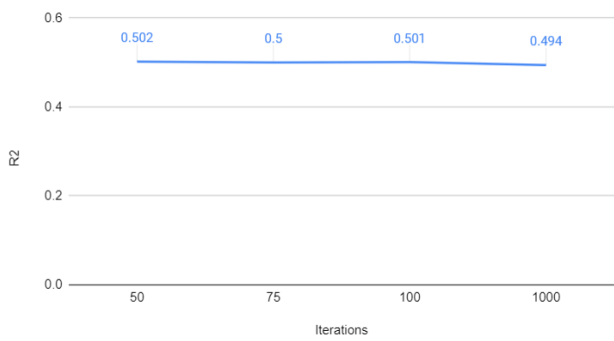
Training Data(Built-in Model): R2 vs. Learning Rate



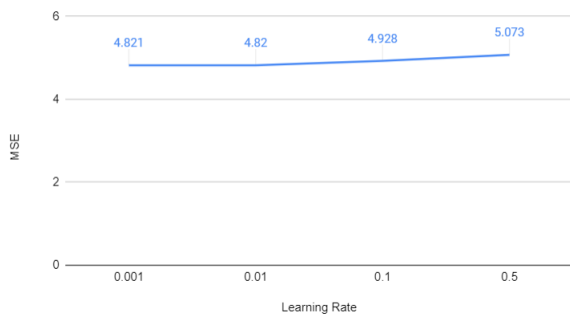
Testing Data(Built-in Model): MSE vs. Iterations



Testing Data(Built-in Model): R2 vs. Iterations



Testing Data(Built-in Model): MSE vs. Learning Rate



Testing Data(Built-in Model): R2 vs. Learning Rate

