

Validation Results

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This document contains results from cross-validation exercises.

1. Summary: baseline_220328

Configuration

- Name: baseline_220328
- Number of epochs: 30
- Learning rate: 0.0001
- Batch size: 128
- Number of folds: 5
- Seed: 123

Figure 1: Final Epoch Metrics

Fold	Loss		Accuracy	
	Train	Validation	Train	Validation
0	0.251	0.386	0.907	0.855
1	0.248	0.357	0.908	0.861
2	0.258	0.406	0.908	0.84
3	0.246	0.437	0.904	0.84
4	0.251	0.416	0.906	0.846

Figure 2: Loss and Accuracy Histories, All Folds

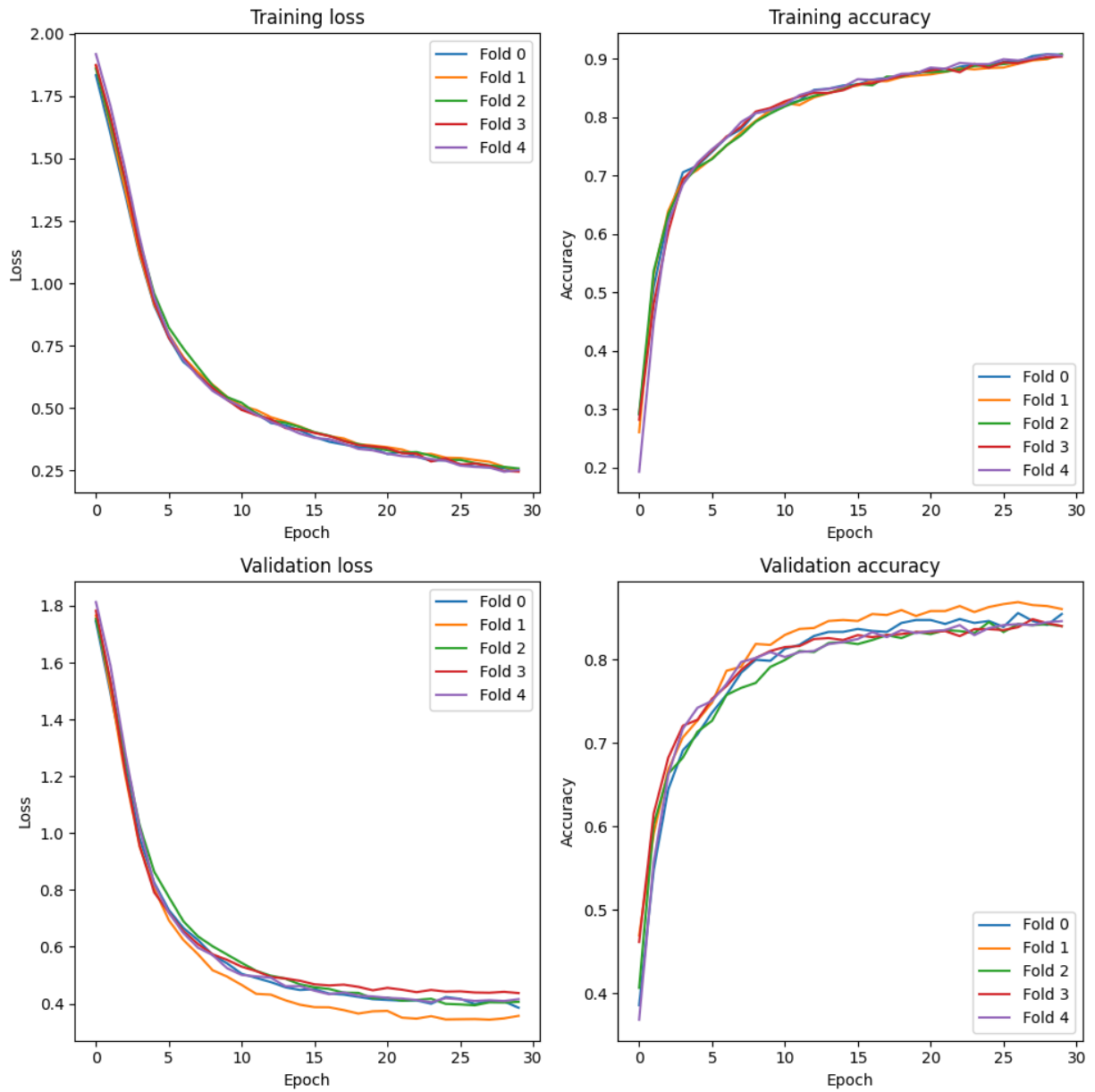
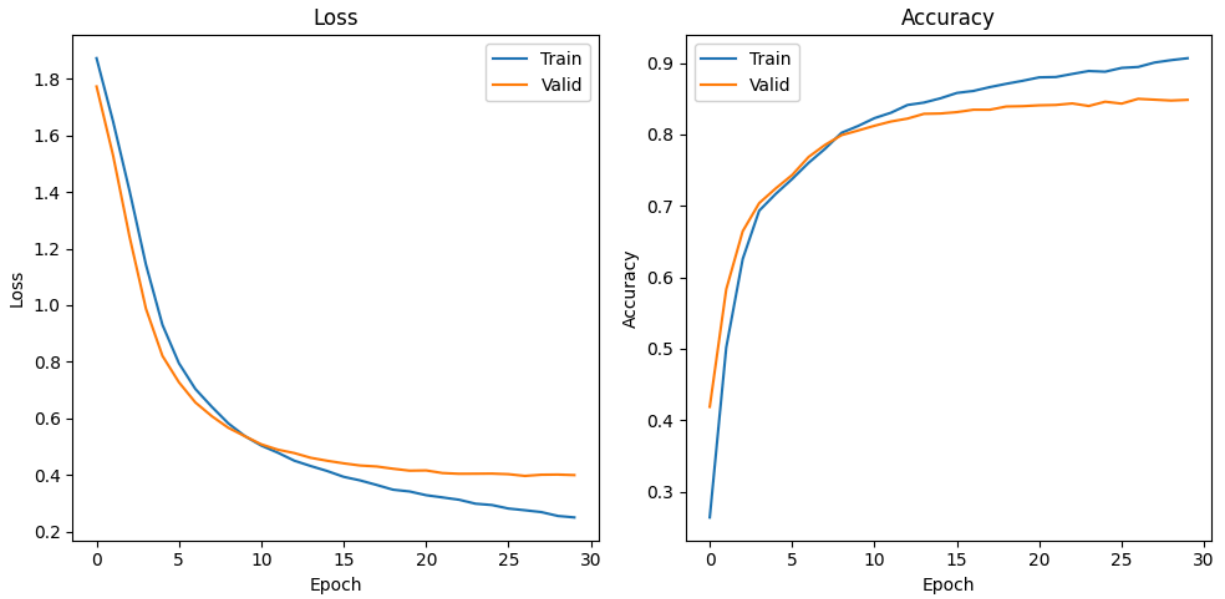


Figure 3: Loss and Accuracy Histories, Average



Abbreviations:

- FA: fall armyworm
- Gr: grasshopper
- He: healthy
- Be: leaf beetle
- Bl: leaf blight
- Sp: leaf spot
- SV: streak virus

Figure 4: Tabulation, Fold 0, train

	FA	Gr	He	Be	Bl	Sp	SV	
FA	172	0	0	1	3	3	5	0.935
Gr	1	413	1	2	0	0	1	0.988
He	0	0	121	0	0	18	0	0.871
Be	3	6	0	575	3	2	3	0.971
Bl	1	0	0	0	525	65	17	0.863
Sp	5	1	6	7	89	678	30	0.831
SV	2	0	3	0	15	19	557	0.935
	0.935	0.983	0.924	0.983	0.827	0.864	0.909	

Figure 5: Tabulation, Fold 1, train

	FA	Gr	He	Be	Bl	Sp	SV	
FA	176	0	0	3	4	2	1	0.946
Gr	2	412	0	2	1	0	1	0.986
He	0	0	118	1	0	19	1	0.849
Be	1	5	1	578	1	4	1	0.978
Bl	0	0	0	0	528	67	20	0.859
Sp	3	3	12	1	85	669	25	0.838
SV	2	0	0	0	17	24	563	0.929
	0.957	0.981	0.901	0.988	0.83	0.852	0.92	

Figure 6: Tabulation, Fold 2, train

	FA	Gr	He	Be	Bl	Sp	SV	
FA	172	0	0	3	1	2	2	0.956
Gr	3	414	1	2	0	1	0	0.983
He	0	0	116	0	0	14	1	0.885
Be	0	4	1	577	2	0	2	0.985
Bl	4	0	0	0	533	81	14	0.843
Sp	3	2	9	3	80	676	36	0.836
SV	2	0	3	1	19	12	558	0.938
	0.935	0.986	0.892	0.985	0.839	0.86	0.91	

Figure 7: Tabulation, Fold 3, train

	FA	Gr	He	Be	Bl	Sp	SV	
FA	175	0	0	2	1	2	2	0.962
Gr	0	412	1	5	0	1	1	0.981
He	0	0	119	1	1	20	1	0.838
Be	2	5	2	575	0	2	0	0.981
Bl	1	0	0	0	514	70	17	0.854
Sp	6	2	7	2	99	671	26	0.825
SV	0	1	1	1	20	20	566	0.929
	0.951	0.981	0.915	0.981	0.809	0.854	0.923	

Figure 8: Tabulation, Fold 4, train

	FA	Gr	He	Be	Bl	Sp	SV	
FA	177	1	0	4	2	2	2	0.941
Gr	1	411	2	2	1	1	0	0.983
He	0	0	115	2	0	18	1	0.846
Be	2	7	0	573	1	2	2	0.976
Bl	0	0	0	1	526	65	26	0.851
Sp	3	1	11	3	93	678	24	0.834
SV	1	0	2	1	12	20	558	0.939
	0.962	0.979	0.885	0.978	0.828	0.863	0.91	

Figure 9: Tabulation, Fold 0, valid

	FA	Gr	He	Be	Bl	Sp	SV	
FA	42	0	0	1	1	1	1	0.913
Gr	2	101	0	3	1	0	0	0.944
He	0	0	28	1	0	6	0	0.8
Be	1	4	0	140	0	1	0	0.959
Bl	0	0	0	0	110	23	8	0.78
Sp	1	0	4	2	40	164	12	0.735
SV	0	0	0	0	7	2	132	0.936
	0.913	0.962	0.875	0.952	0.692	0.832	0.863	

Figure 10: Tabulation, Fold 1, valid

	FA	Gr	He	Be	Bl	Sp	SV	
FA	41	0	0	1	0	1	3	0.891
Gr	0	105	1	6	3	1	0	0.905
He	0	0	28	1	0	4	0	0.848
Be	0	0	0	139	0	0	0	1
Bl	0	0	0	0	108	18	1	0.85
Sp	5	0	3	0	42	171	20	0.71
SV	0	0	0	0	5	2	130	0.949
	0.891	1	0.875	0.946	0.684	0.868	0.844	

Figure 11: Tabulation, Fold 2, valid

	FA	Gr	He	Be	Bl	Sp	SV	
FA	40	0	0	0	0	0	0	1
Gr	2	103	0	1	1	1	0	0.954
He	0	0	31	0	0	4	1	0.861
Be	3	2	0	143	0	1	1	0.953
Bl	0	0	0	0	105	27	5	0.766
Sp	1	0	2	2	45	151	15	0.699
SV	0	0	0	0	8	12	131	0.868
	0.87	0.981	0.939	0.979	0.66	0.77	0.856	

Figure 12: Tabulation, Fold 3, valid

	FA	Gr	He	Be	Bl	Sp	SV	
FA	38	0	1	2	1	0	1	0.884
Gr	2	100	0	1	0	2	0	0.952
He	0	0	30	1	0	11	0	0.714
Be	0	3	1	138	0	0	1	0.965
Bl	3	1	0	0	121	29	8	0.747
Sp	2	1	1	2	31	143	9	0.757
SV	1	0	0	2	6	11	134	0.87
	0.826	0.952	0.909	0.945	0.761	0.73	0.876	

Figure 13: Tabulation, Fold 4, valid

	FA	Gr	He	Be	Bl	Sp	SV	
FA	40	0	0	0	0	1	0	0.976
Gr	1	100	0	1	0	1	0	0.971
He	0	0	27	0	0	5	0	0.844
Be	0	1	0	144	0	0	1	0.986
Bl	1	2	0	0	118	25	3	0.792
Sp	4	2	5	1	34	153	22	0.692
SV	0	0	1	0	7	11	127	0.87
	0.87	0.952	0.818	0.986	0.742	0.781	0.83	