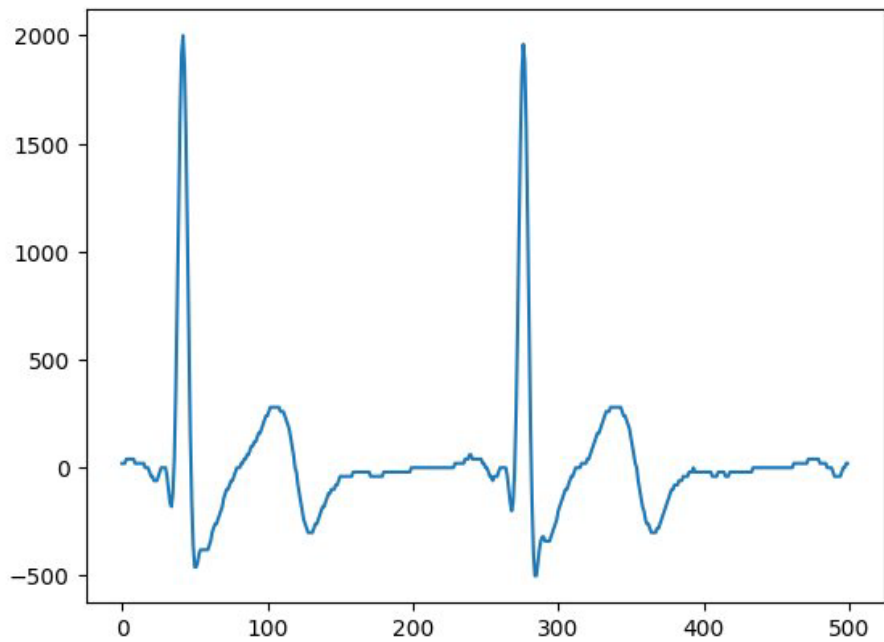




AI Assisted Prediction and Analysis of Electrocardiograms

George Parker

Image vs Digital ECGs

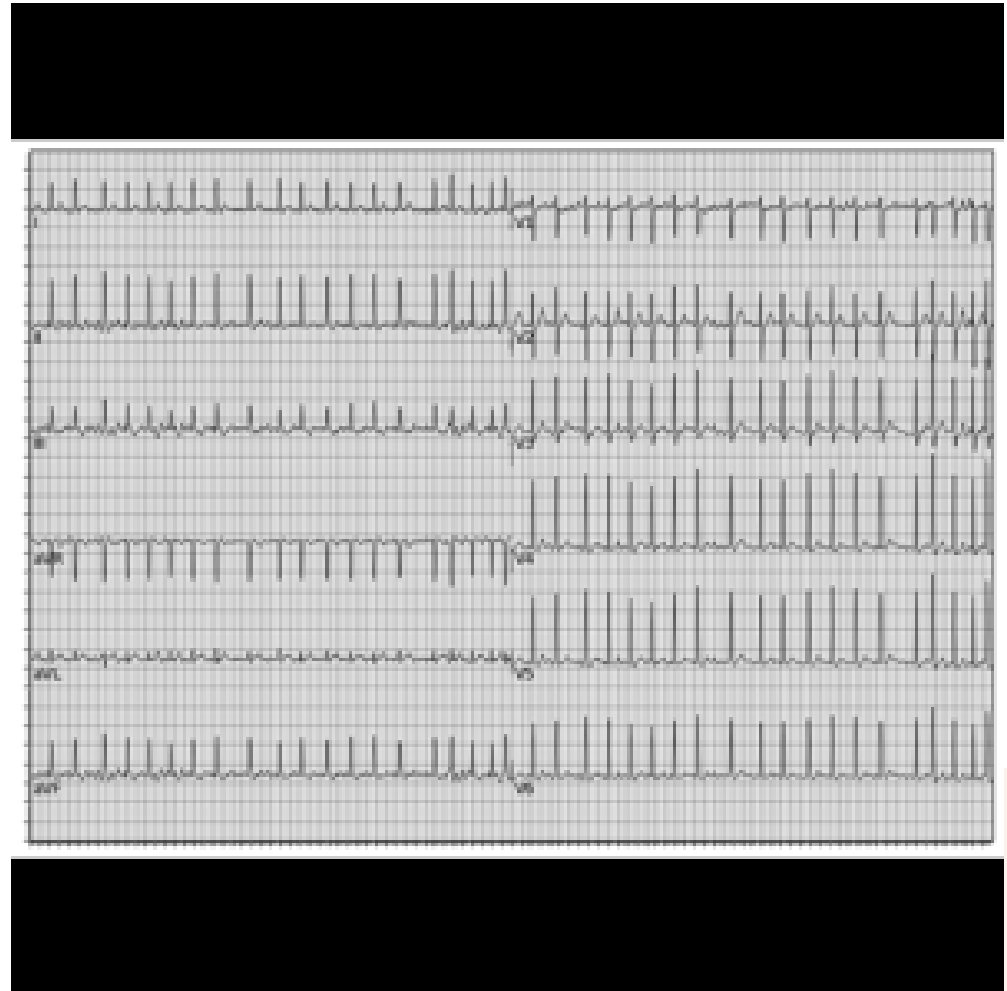
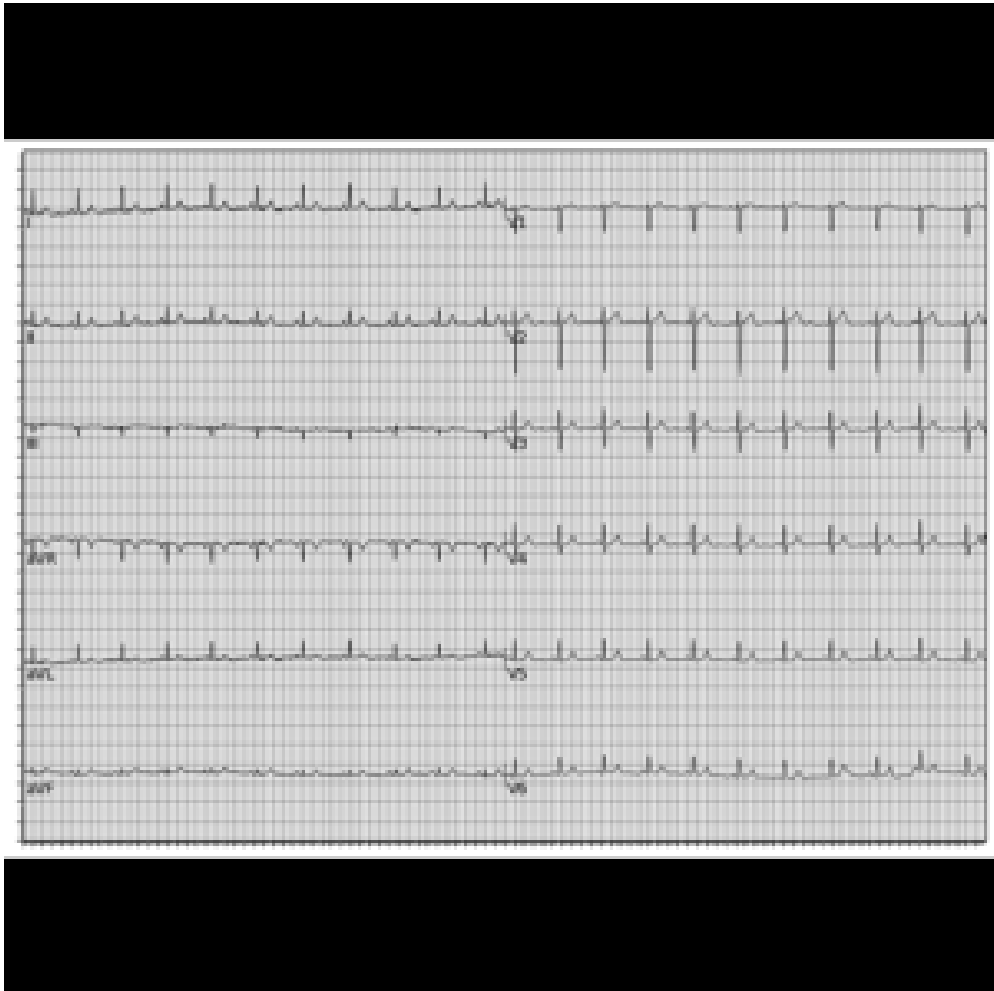


Heart Bug Data (Single Lead ECG)

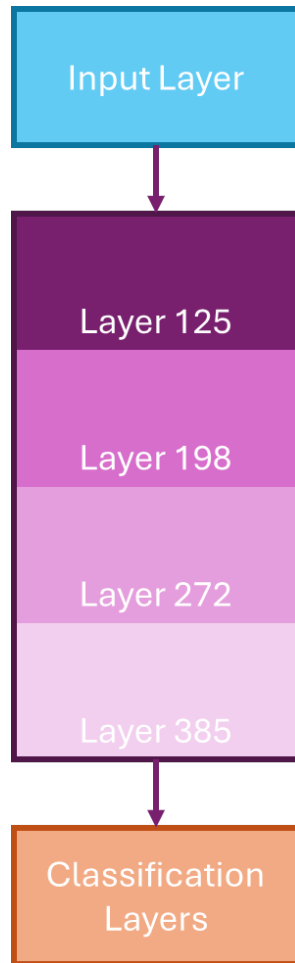


12 Lead ECG Printout

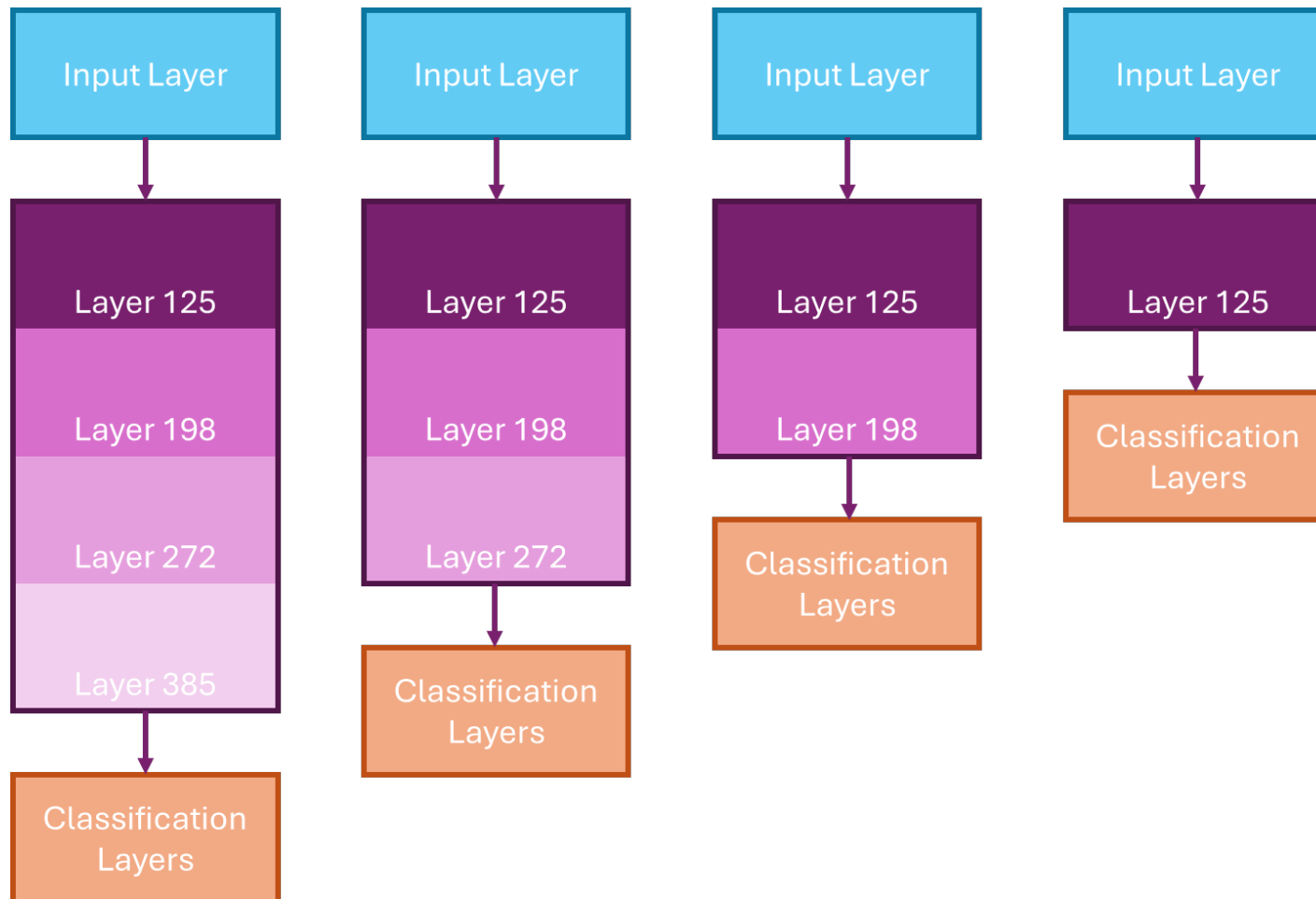
Normal Sinus Rhythm VS Atrial Fibrillation



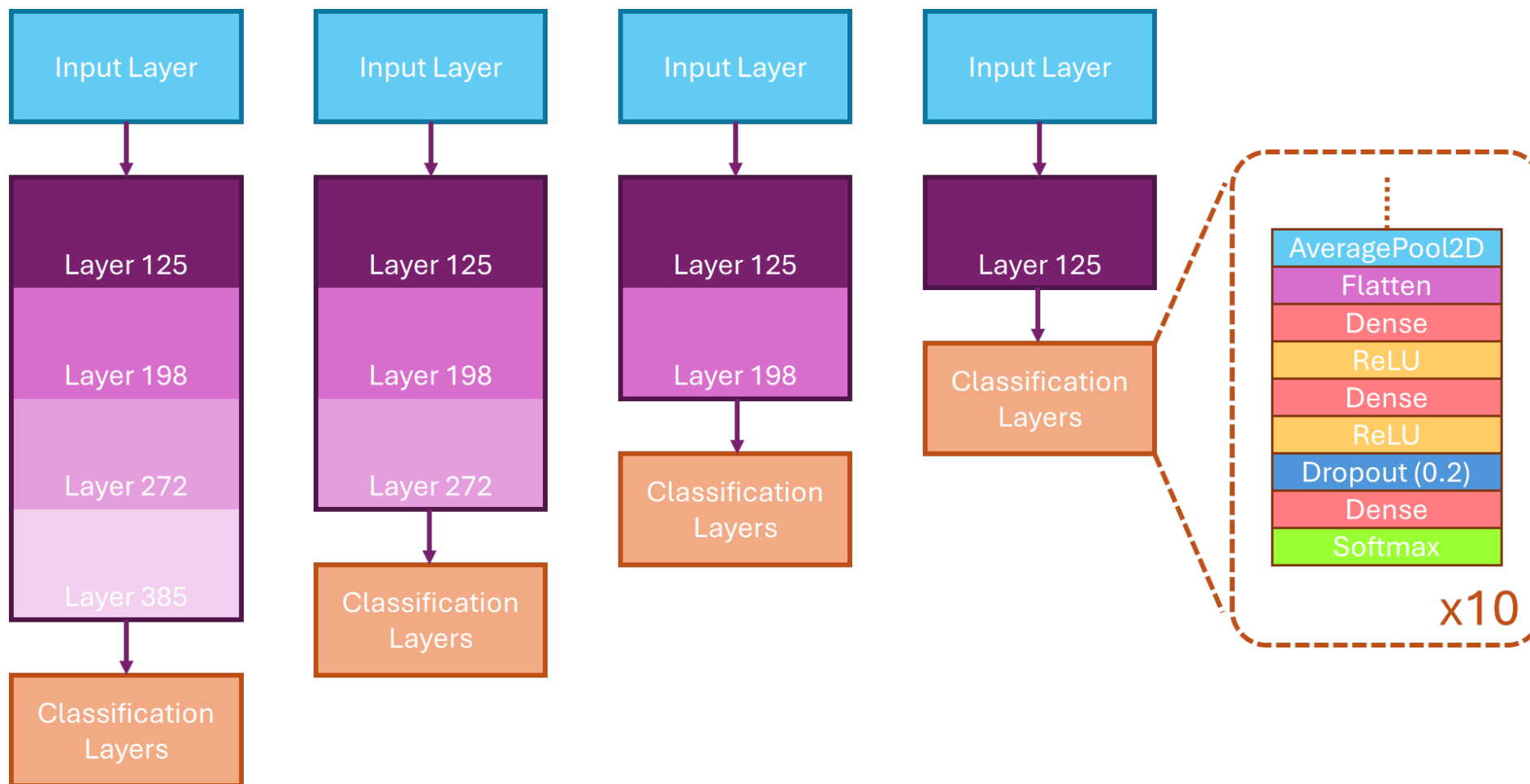
EfficientNetB3 Ensemble



EfficientNetB3 Ensemble



EfficientNetB3 Ensemble



Results

	Single EfficientNet B3
Atrial fibrillation	1094
Not atrial fibrillation	5772
TP	811
FP	388
TN	5384
FN	283
Accuracy	0.90
Precision	0.67
Recall	0.74
F1-score	0.70

Results

	Single EfficientNet B3	40Classifier Ensemble
Atrial fibrillation	1094	1094
Not atrial fibrillation	5772	5772
TP	811	972
FP	388	381
TN	5384	5391
FN	283	122
Accuracy	0.90	0.93
Precision	0.67	0.72
Recall	0.74	0.89
F1-score	0.70	0.79

Results

	Single EfficientNet B3	40Classifier Ensemble
Atrial fibrillation	1094	1094
Not atrial fibrillation	5772	5772
TP	811	972
FP	388	381
TN	5384	5391
FN	283	122
Accuracy	0.90	0.93
Precision	0.67	0.72
Recall	0.74	0.89
F1-score	0.70	0.79

Results

	Single EfficientNet B3	40Classifier Ensemble	Digital
Atrial fibrillation	1094	1094	1094
Not atrial fibrillation	5772	5772	5772
TP	811	972	997
FP	388	381	310
TN	5384	5391	5462
FN	283	122	97
Accuracy	0.90	0.93	0.94
Precision	0.67	0.72	0.76
Recall	0.74	0.89	0.91
F1-score	0.70	0.79	0.83

Acknowledgements



Dr. Justin Phan



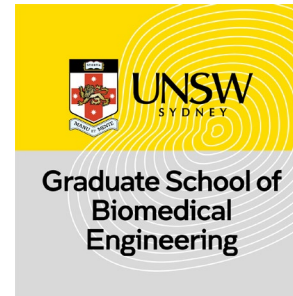
Dr. Reza Argha



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