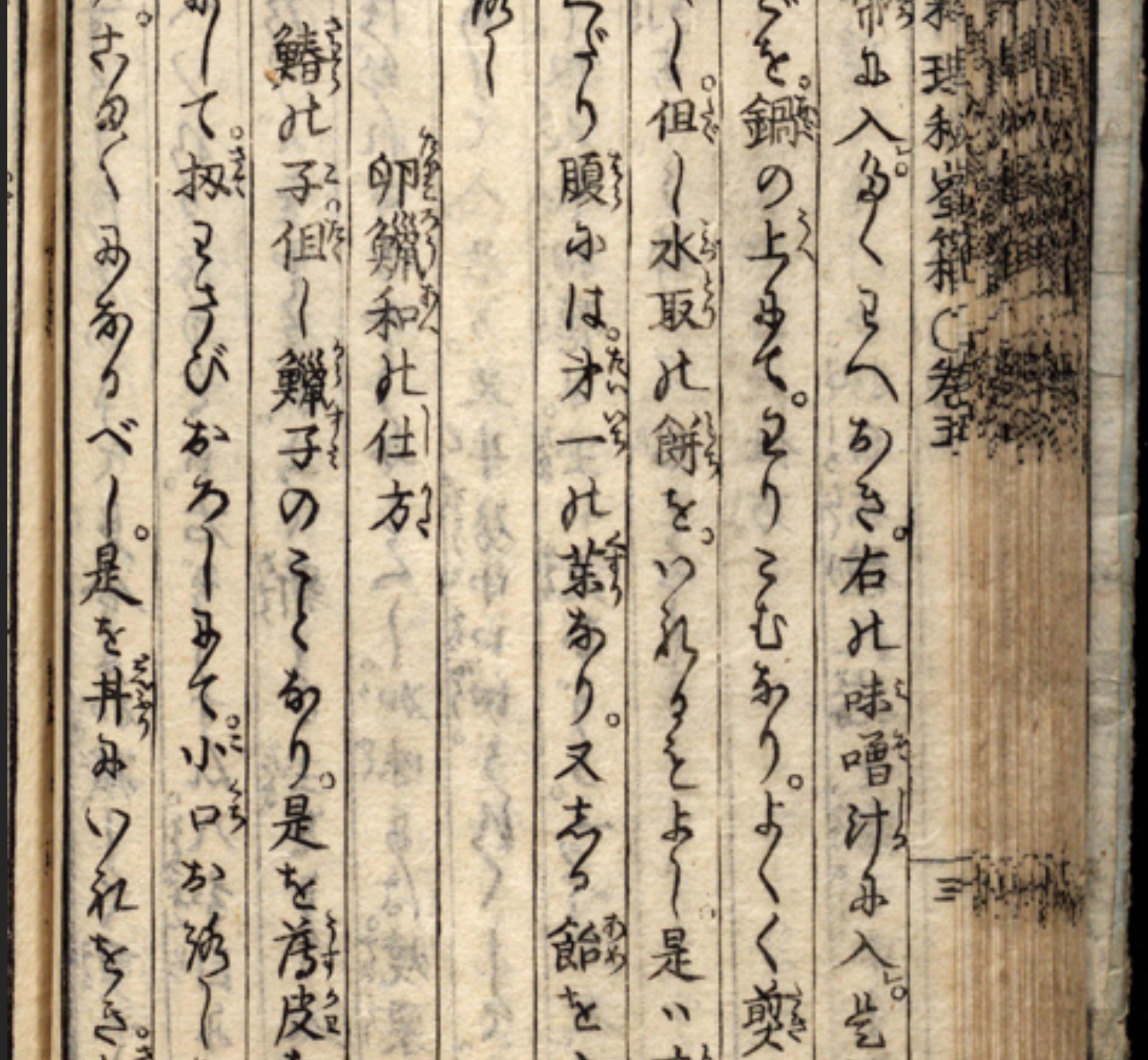




STEPHEN LANIER

Problem Statement

Japanese characters, of which there are more than 4,000, are especially hard to recognize as *kuzushiji*, cursive-font characters. Can machine learning help us identify them?



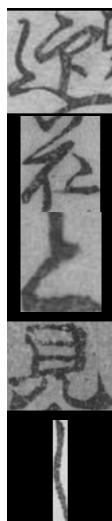
Value

"Japan has millions of books and over a billion historical documents... [and yet] there are very few fluent readers of kuzushiji today (only 0.01% of modern Japanese natives)."

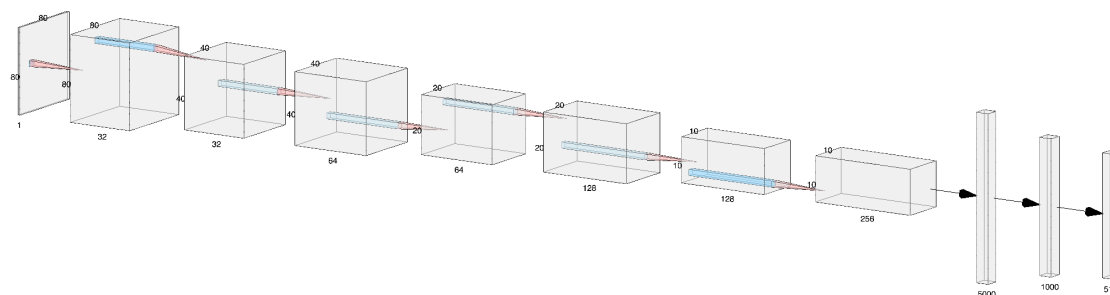
-[Kuzushiji Recognition](#), Kaggle

Methodology

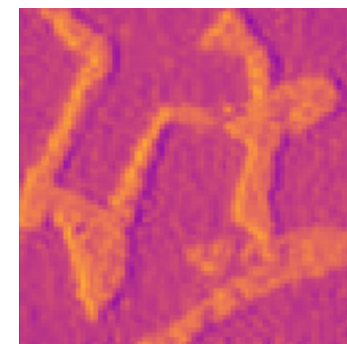
Prep



Train

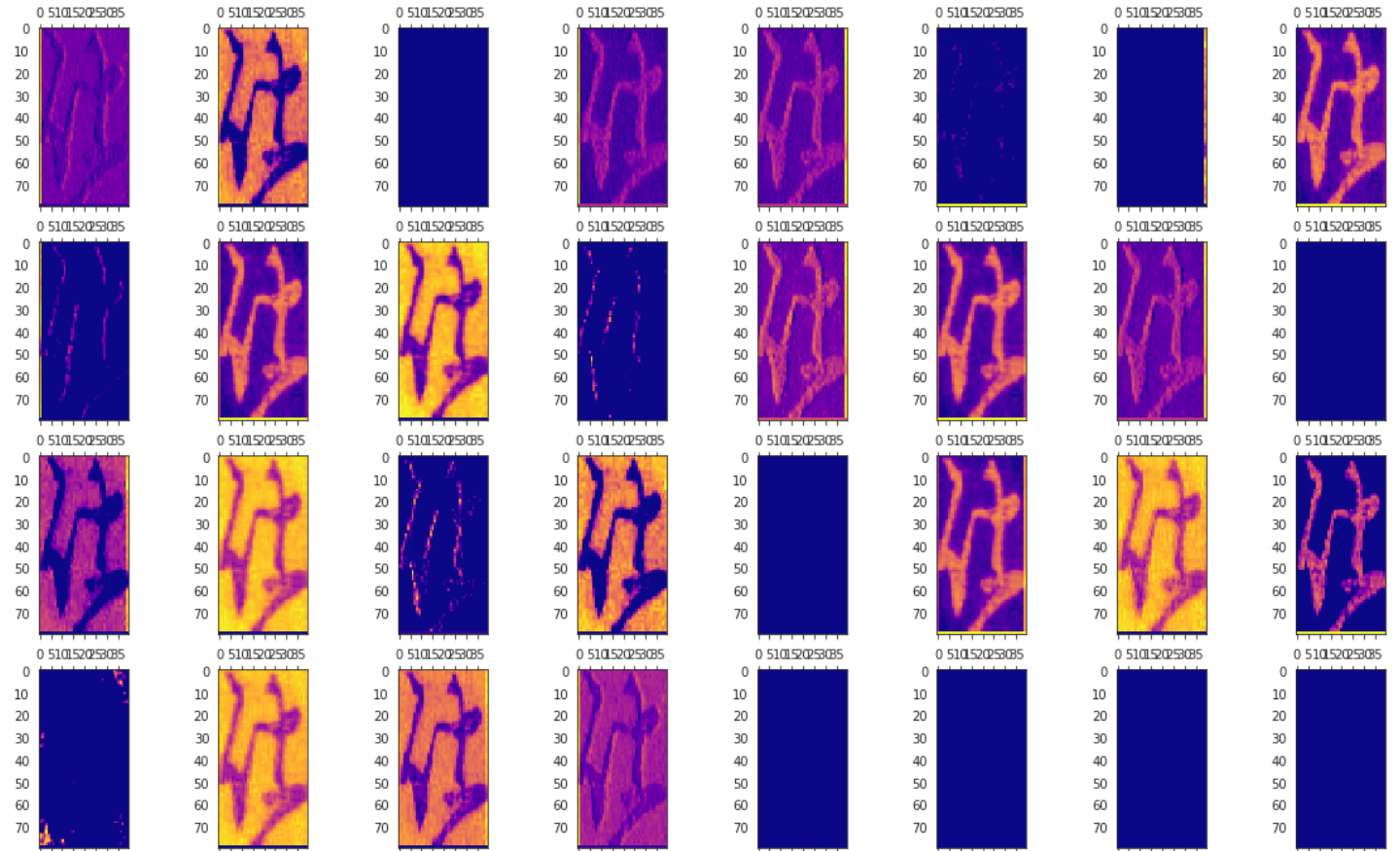


Interpret



Results

activation



Results

Test Accuracy				
Baseline	Xception	ResNet152V2	InceptionResNet	FCN
0.95	0.85	0.80	--	0.17

Conclusions

Model is able to classify characters with high accuracy (approaching human-level ability)

High success at this level means possibly can incorporate more characters

Simplest model currently has best performance, may change with more experimentation

Future Work



More work on the
FCN

A dashboard for
easier interaction

Showcase
predictions on
image (possibly with
semantic
segmentation)



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