

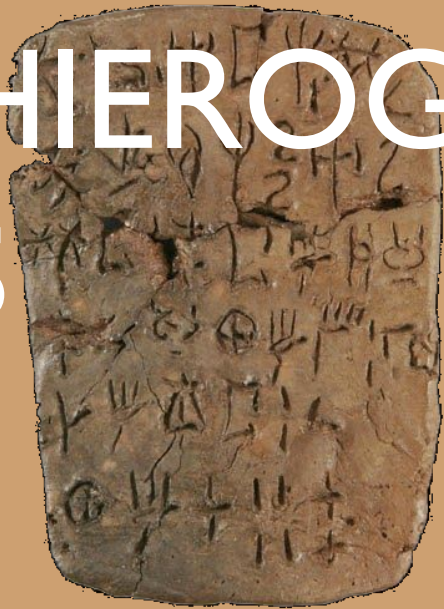
CLASSIFYING EGYPTIAN HIEROGLYPHS

SCOTT KROEGER



MOTIVATION

HIEROGLYPHS



MINOAN LINEAR
A

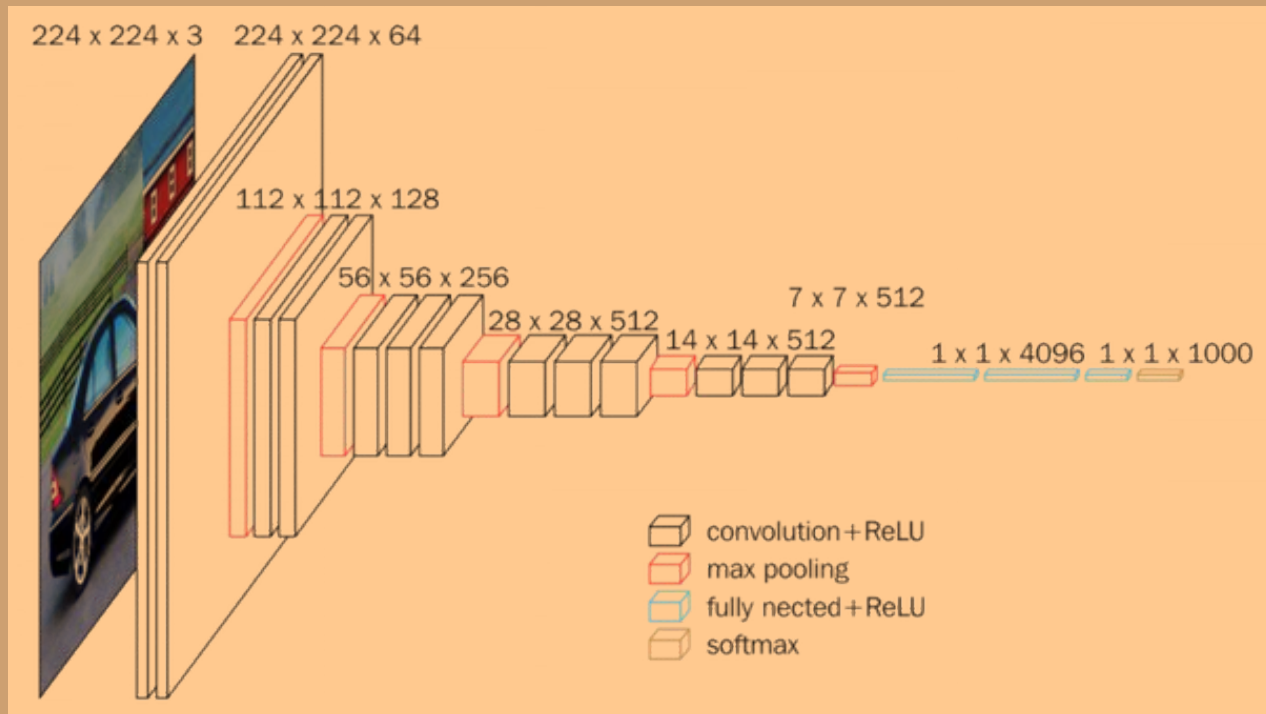


RONGORONGO



CUNEIFORM

METHODOLOGY



 Keras


TensorFlow

METHODOLOGY

4000 Images

50 hieroglyphs



BASKET

WATER

COBRA

PRELIMINARY RESULTS

50 CLASSES

$F_1 = 0.91$

DENSELY WRITTEN HIEROGLYPHS



TRAVELED TO EGYPT



VIA THE INTERNET



4500 Images

11 hieroglyphs

Pyramid of Unas



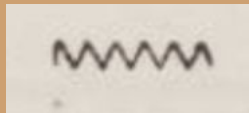
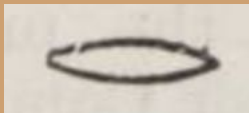
FINAL RESULTS

11 CLASSES

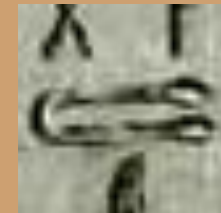
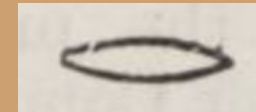
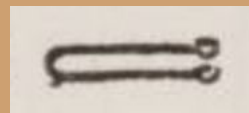
$$F_1 = 0.79$$

MOST COMMON ERRORS

Mouth $F_1 = 0.54$
Confused with Water



Tether $F_1 = 0.59$
Confused with Mouth



CONCLUSION



- MACHINE LEARNING CAN ASSIST WITH ANALYSIS OF ANCIENT TEXTS
- NEXT TIME I NEED TO GO TO EGYPT FOR REAL

THANK YOU



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Or come say hello and talk about:

Machine learning • NLP

Hieroglyphs • Cuneiform