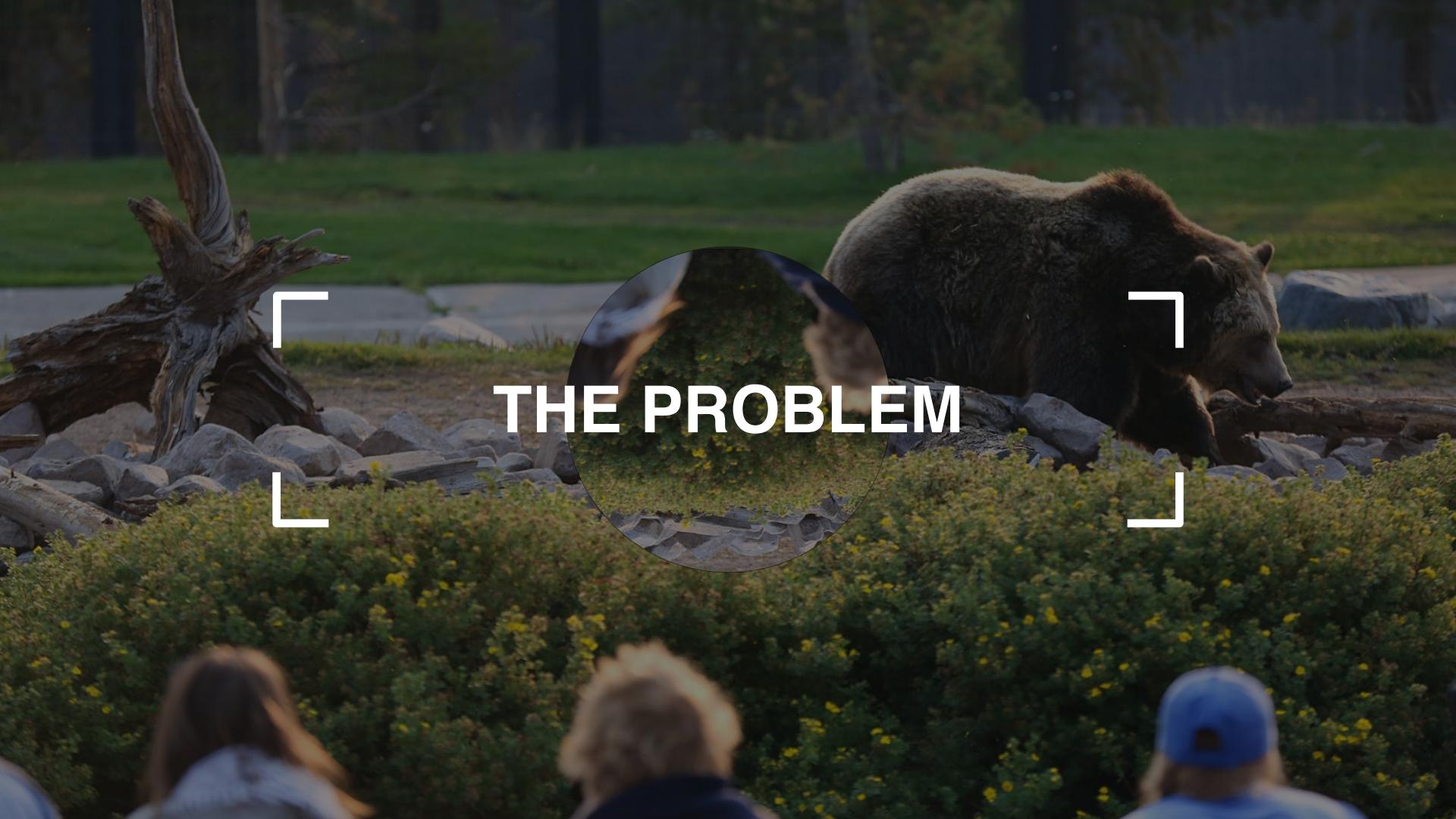




PROTECTING COLORADO WILDLIFE WITH COMPUTER VISION

Using convolutional neural networks to reduce
animal/human encounters



THE PROBLEM





592

Bears euthanized in Colorado since 2015

THE DATA

North American Camera Trap
Images (NACTI):

4,187 images
10 species (including empty)
57% positive cases



TARGET CLASS ANIMALS



BEAR



COUGAR

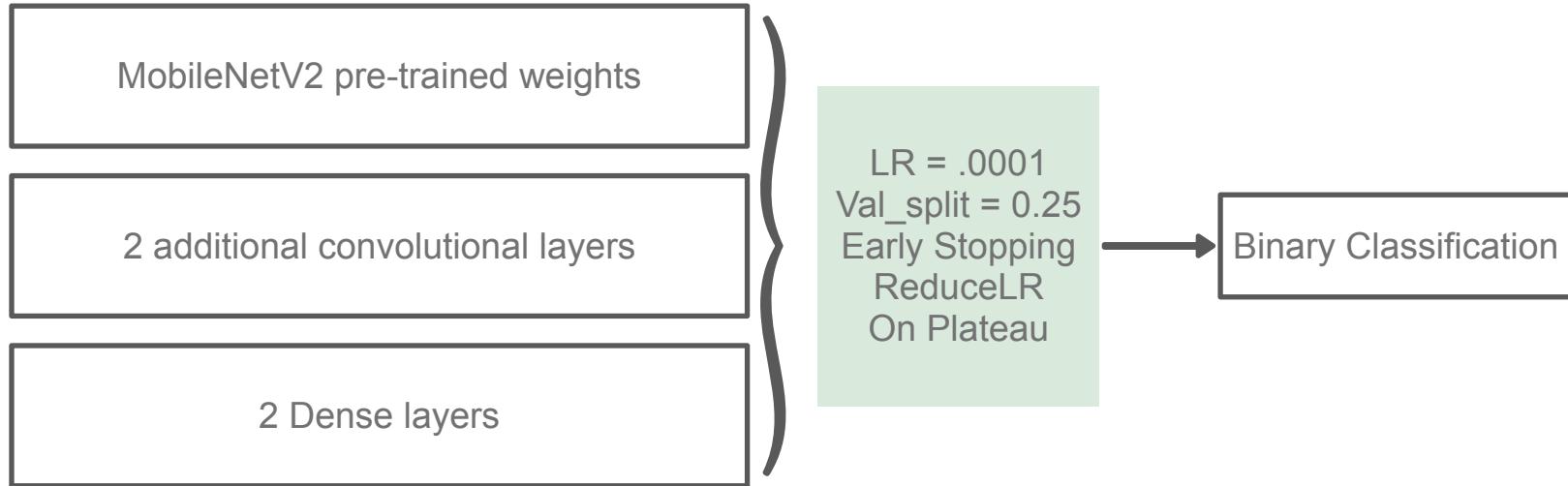


MOOSE



COYOTE

MODEL ARCHITECTURE



MODEL PERFORMANCE

ACCURACY: 82%

PRECISION: 80%

RECALL: 91%



MODEL PERFORMANCE

ACCURACY: 82%

PRECISION: 80%

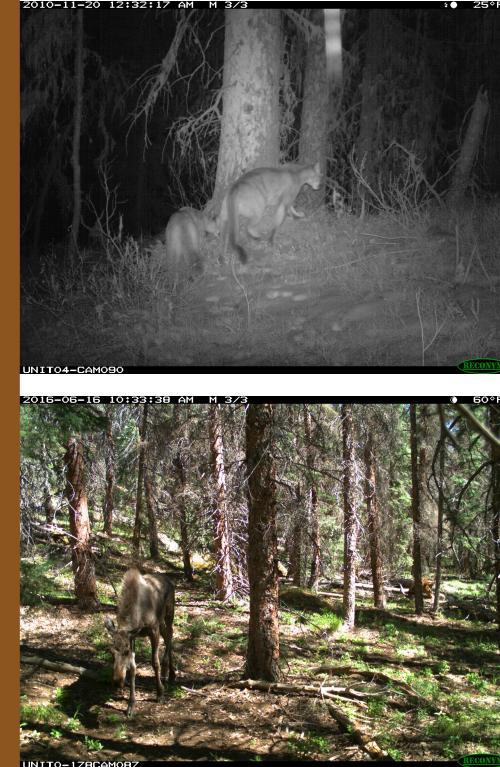
RECALL: 91%



IMAGES AFFECTING RECALL



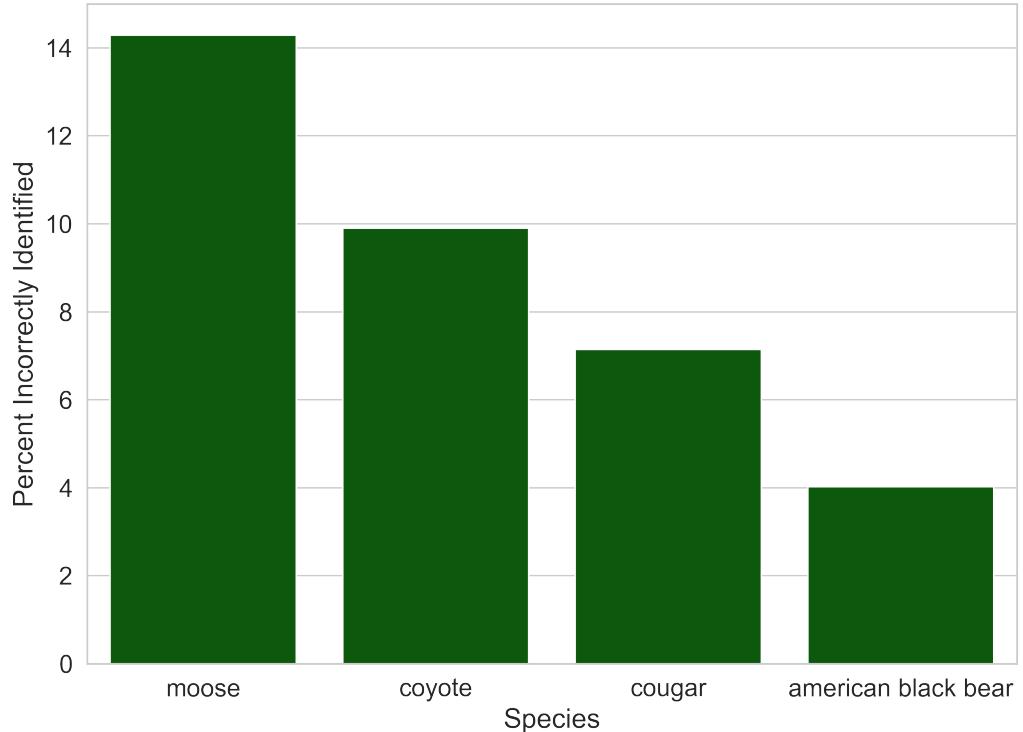
IMAGES AFFECTING RECALL

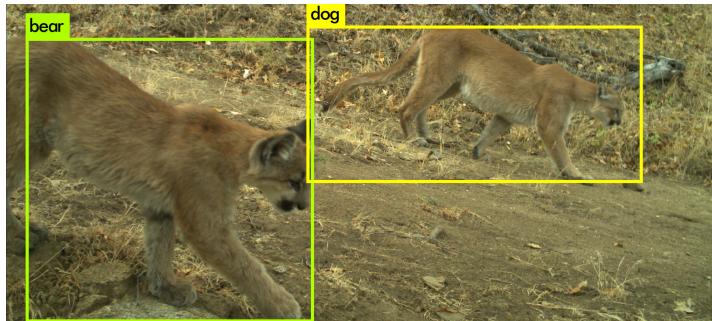
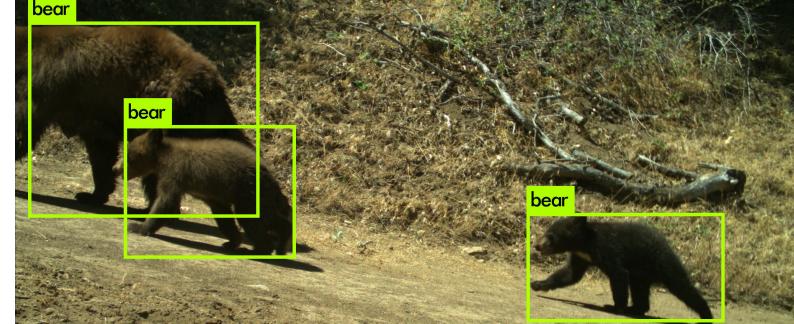


IMAGES AFFECTING RECALL



SPECIES-SPECIFIC PERFORMANCE





FUTURE WORK:
object localization to identify
offspring and groups



QUESTIONS?

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