1. For the sequence of frame features C_1, C_4, C_4, C_7, we have two possible paths:

   a) Onset, Mid, Mid, End

$$= 0.5 * [(0.7)(0.7)] * [(0.9)(0.7)] * [(0.1)(0.4)] * 0.6$$

$$= 0.0037044$$

   b) Onset, Mid, End, End

$$= 0.5 * [(0.7)(0.7)] * [(0.1)(0.1)] * [(0.4)(0.4)] * 0.6$$

$$= 0.0002352$$

   As a result, path a) has the highest probability, so it is the most likely explanation of features.

2.

African_crocodile, 0.76831186
leopard, 0.09511124
jaguar, 0.034117863
American_alligator, 0.018338688
cheetah, 0.0062204986
gar, 0.0032085215
bittern, 0.0019585888
dowitcher, 0.0018760879
sandbar, 0.0007798972
zebra, 0.00077000883

In the picture is a leopard biting a crocodile on a sandbar. Unfortunately, InceptionResNetV2 did not find green plants on the sandbar. In addition, InceptionResNetV2 detected some objects not in the picture, such as gar, bittern, dowitcher, zebra, etc.

3. **Link:** https://ntserver1.wsulibs.wsu.edu:2343/document/8452744

Artificial Intelligence Ethical Issues:

The ethical issues of artificial intelligence are highly diverse. Some issues are caused by features of machine learning. The main reason for such ethical issues is opaque or unpredictable artificial intelligence technology. For example, an artificial intelligence system that judges loan applications may tell you that it makes a decision based on your income, but in fact, your race or gender is the main basis for its judgment. Some AI ethical issues arise during the integration of artificial intelligence and society. For example, with the constant maturity of artificial intelligence technology, intelligent computers can be competent for many human jobs, and the competition between computers and humans may have a negative impact on employment.