ANTHROPOLOGY DATA ANALYSIS 1

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AGENDA

Introduction

EDA

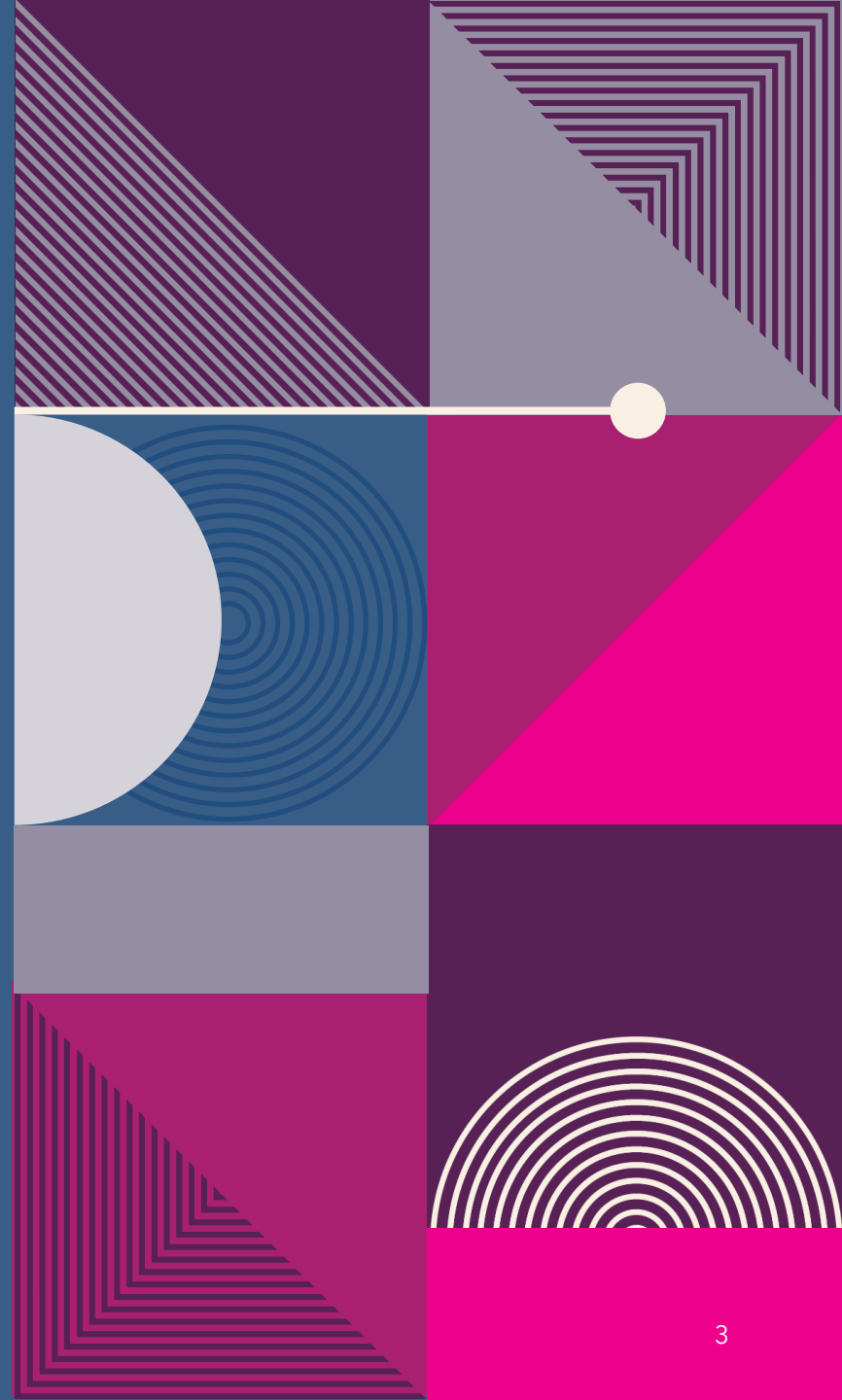
Machine Learning

Conclusions

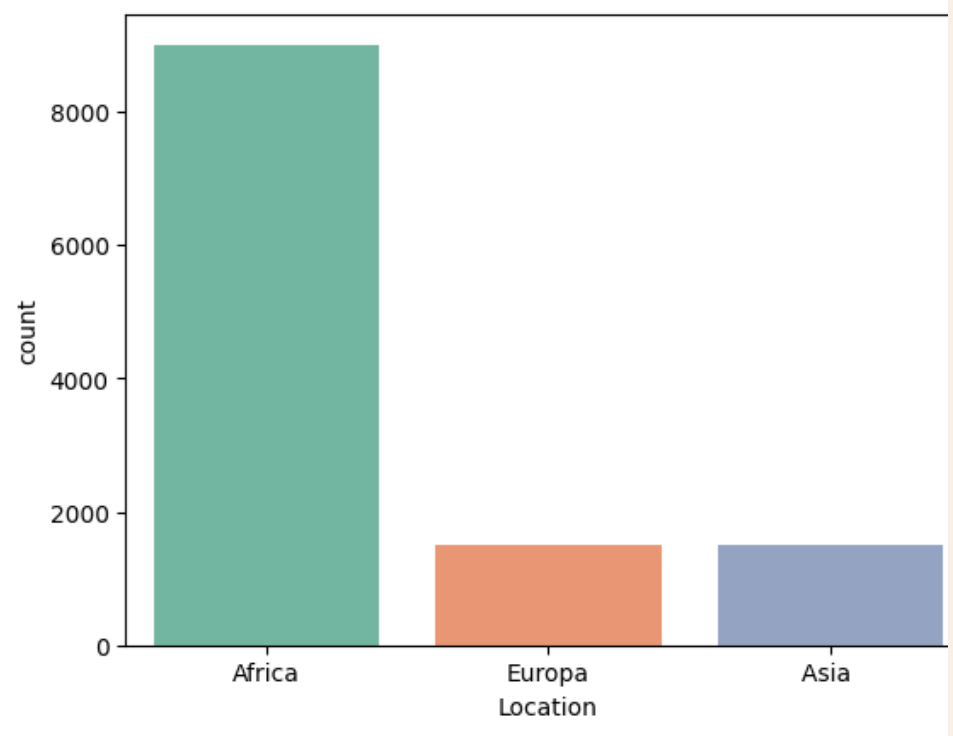
PROJECT OVERVIEW

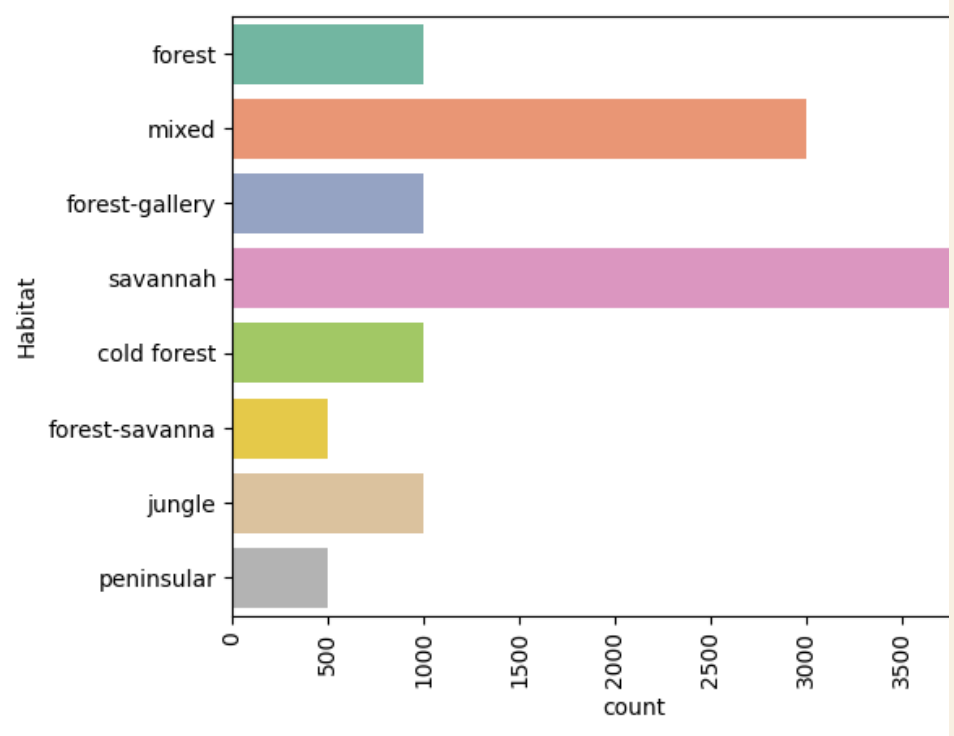
Various factors and their interrelationships were investigated and analyzed for human origins and evolution process. Exploratory Data Analysis (EDA) and simple machine learning algorithms were employed to explore the correlations among height, bipedality, cranial capacity, diet, and technological development.

In particular, the study examined the relationships between cranium size and technological advancement, as well as bipedality and its evolution over time. Additionally, the connections between jaw size, diet, teeth structure, skeleton, and overall anatomy were thoroughly explored.

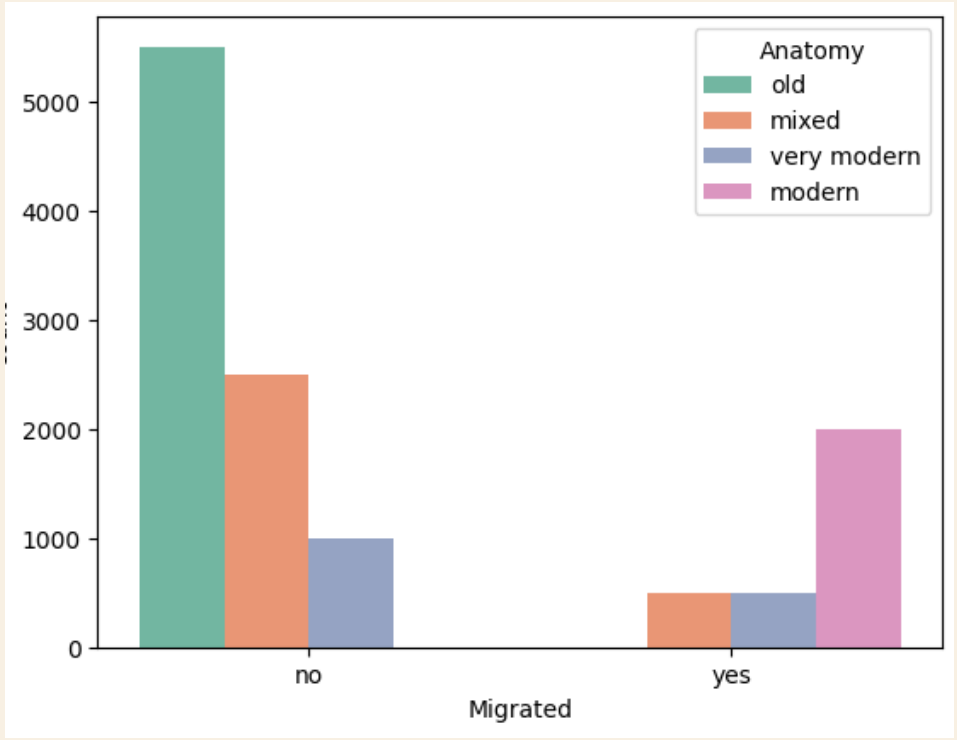


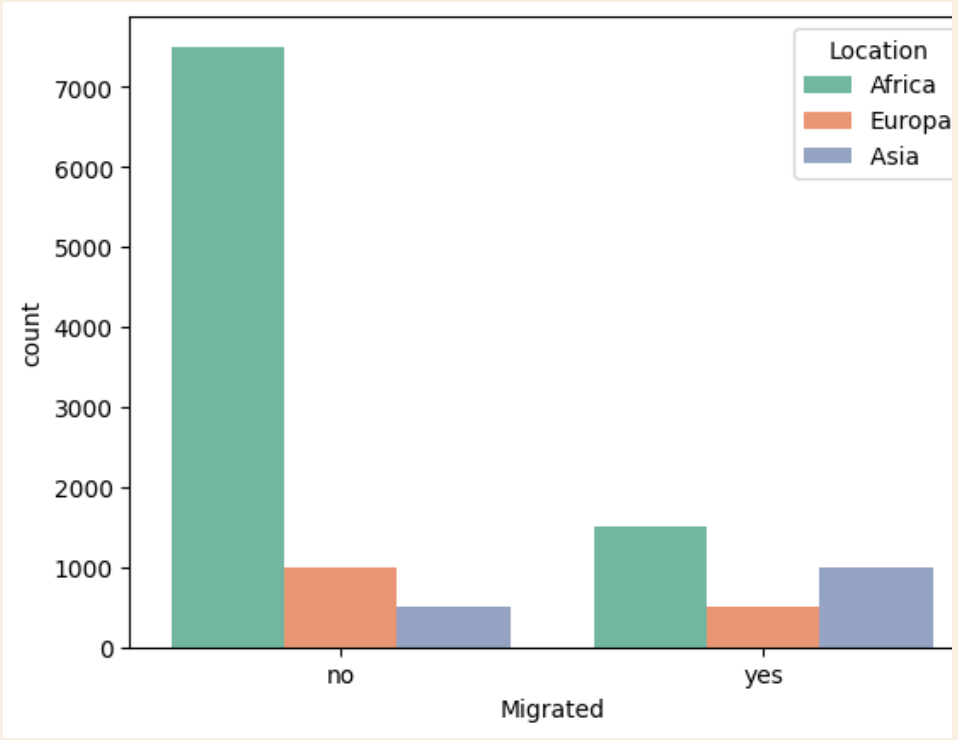
LOCATION AND HABITAT



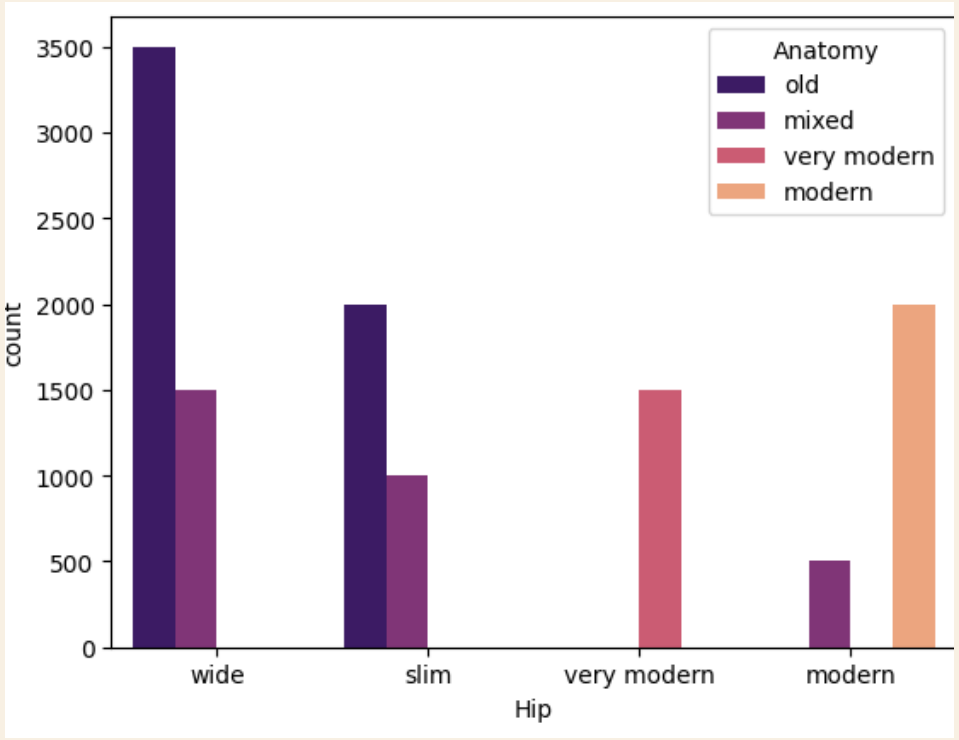


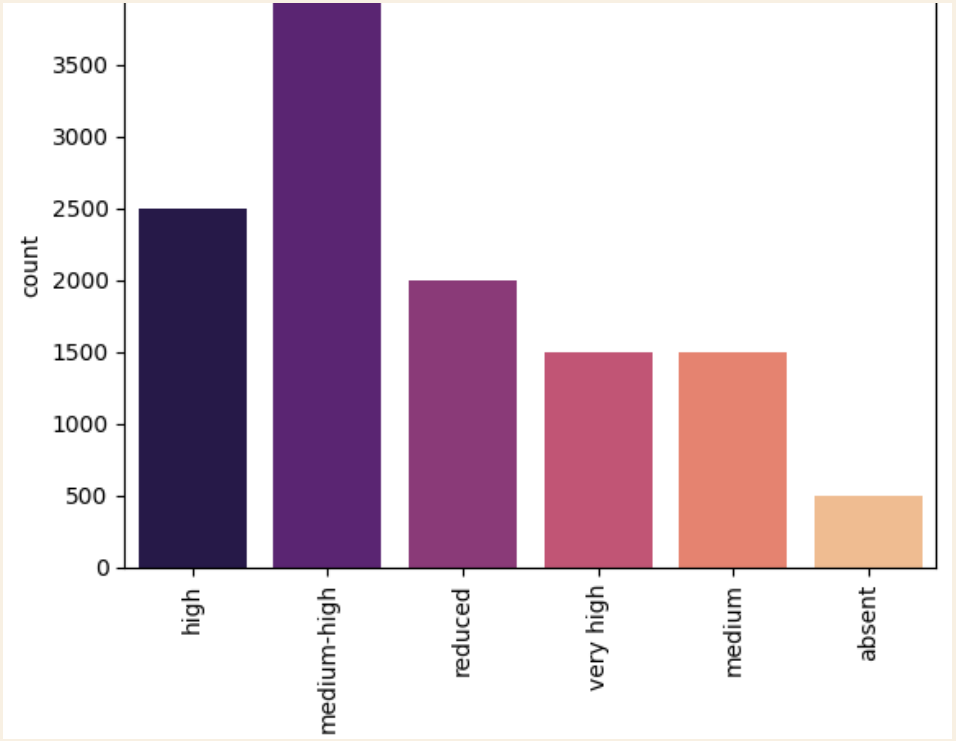
MIGRATION


Anatomy
old
mixed
very modern
modern
5000
4000
3000
2000
1000
0
no
yes
Migrated

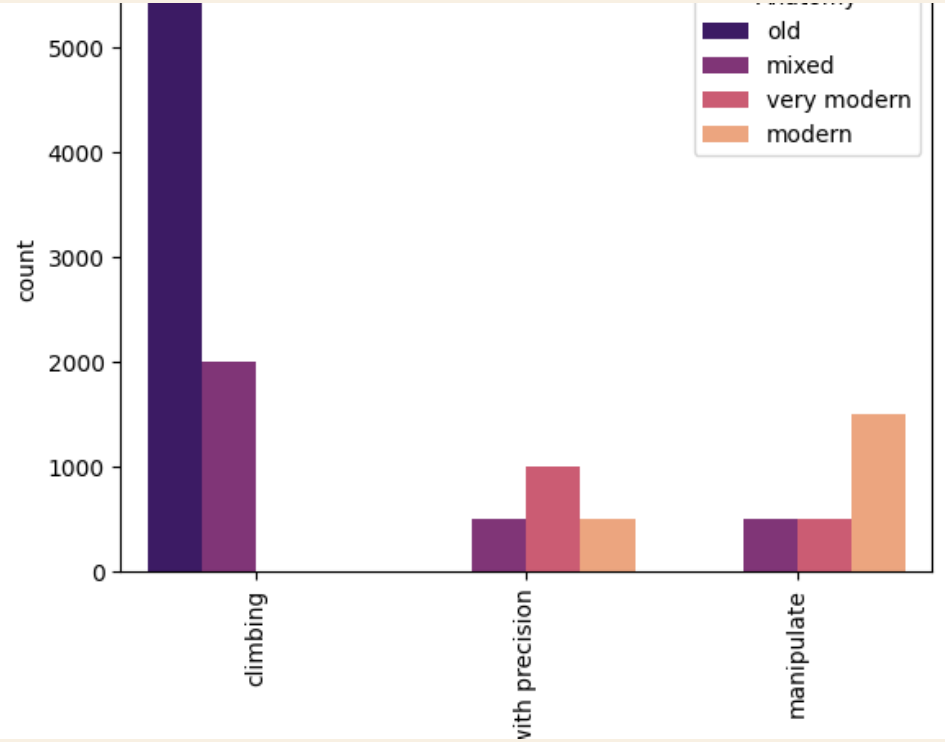

Location
Africa
Europa
Asia
7000
6000
5000
4000
3000
2000
1000
0
count
no
yes
Migrated

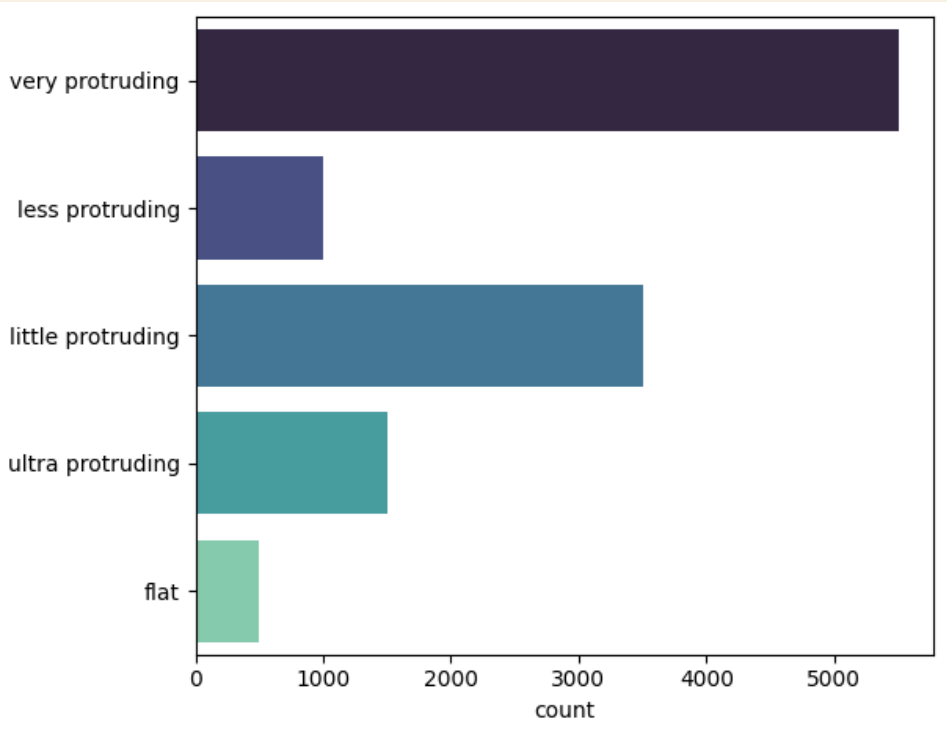
HIP AND PROGNATHISM



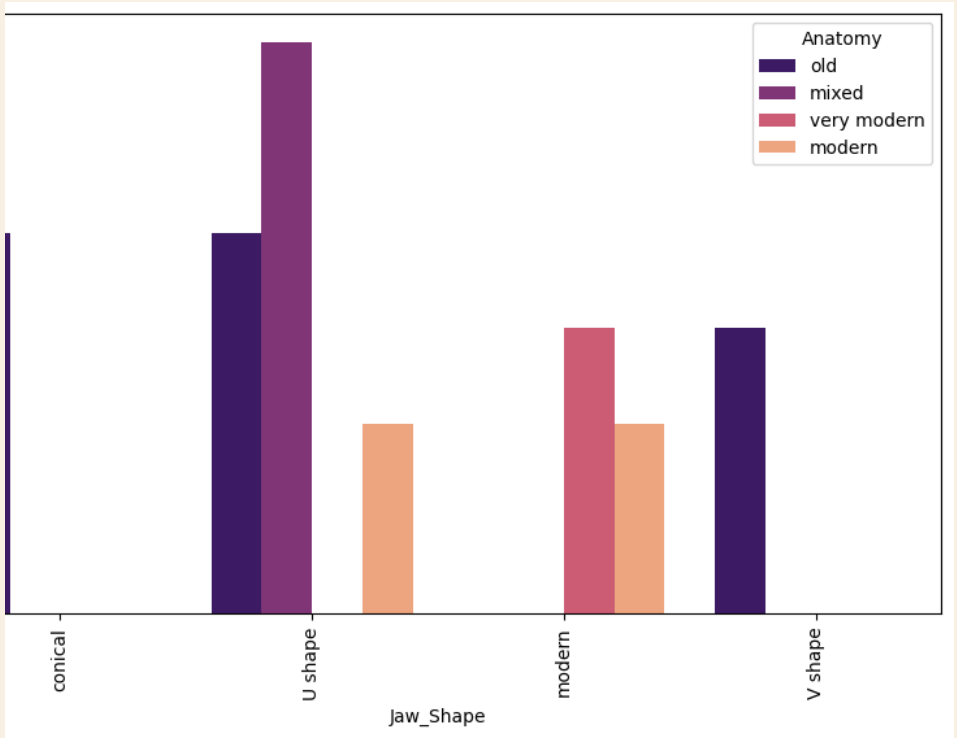


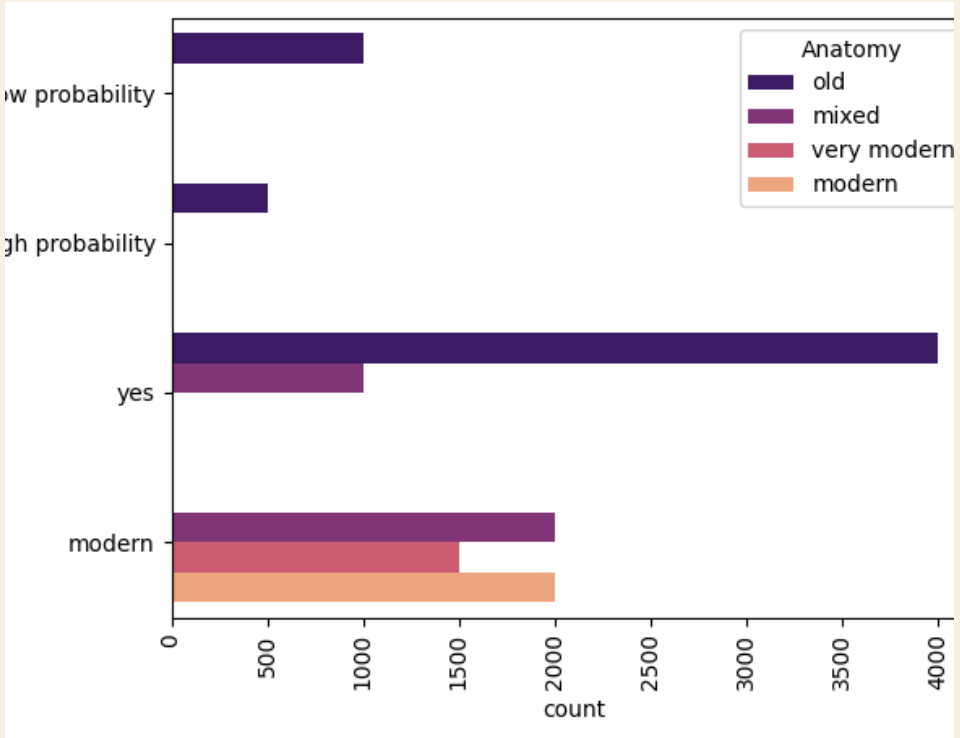
ARMS AND TORUS SUPRAORBITAL



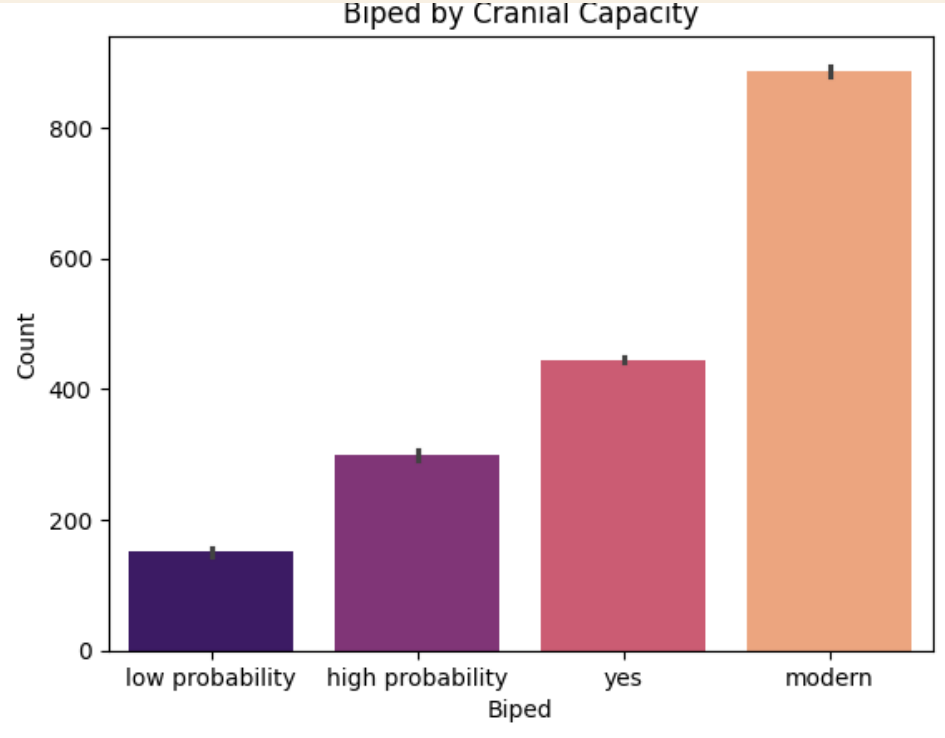


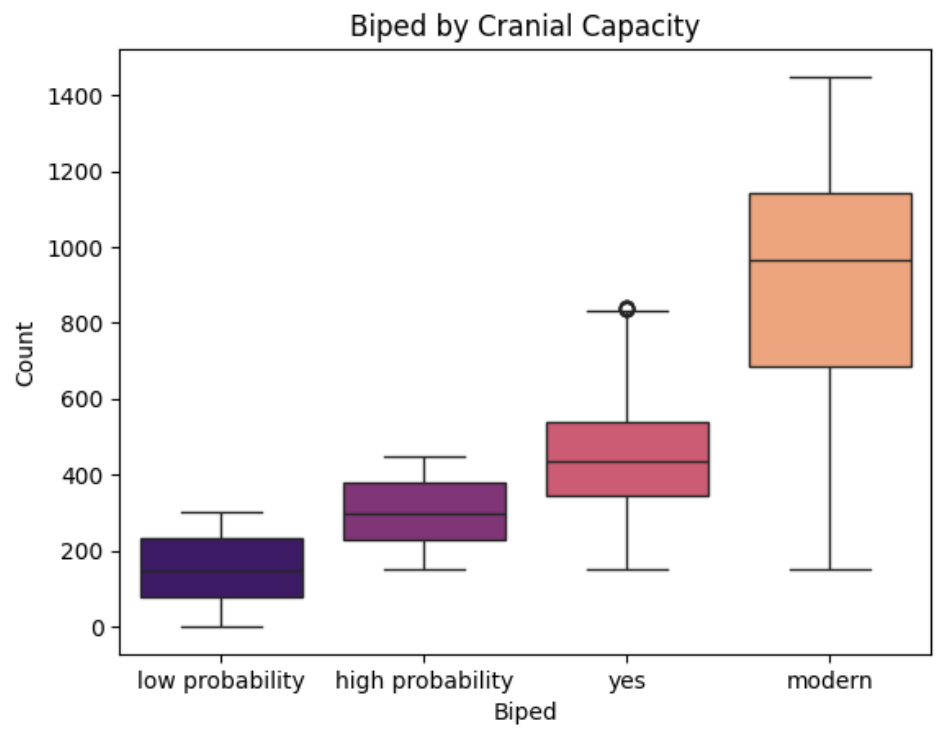
BIPED VS JAW SHAPE



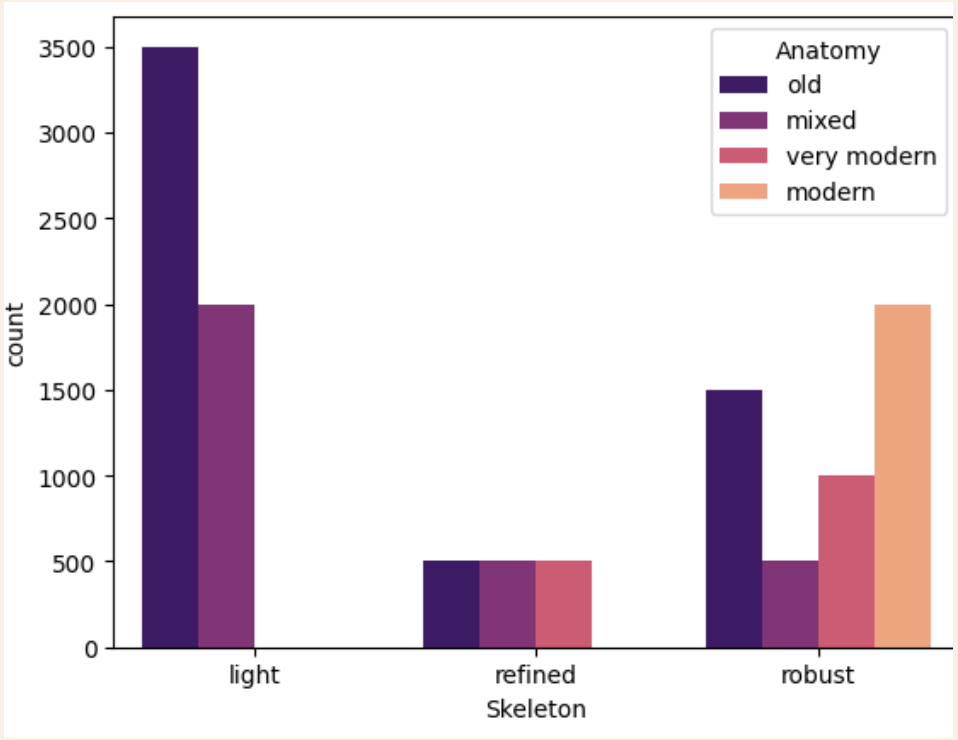


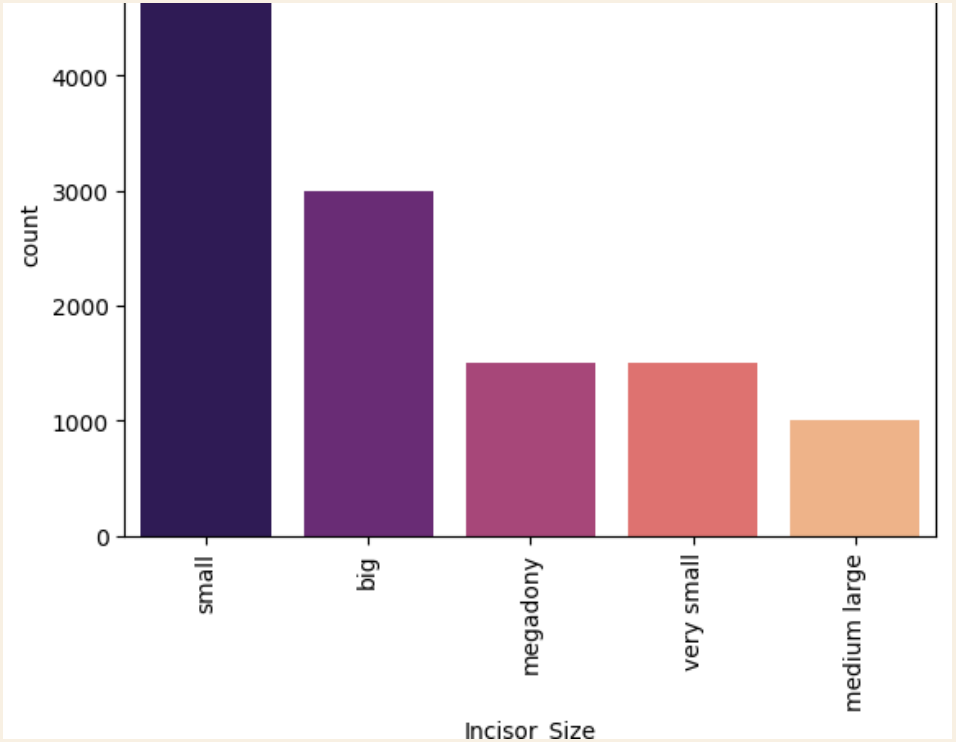
BIPED BY CRANIAL CAPACITY

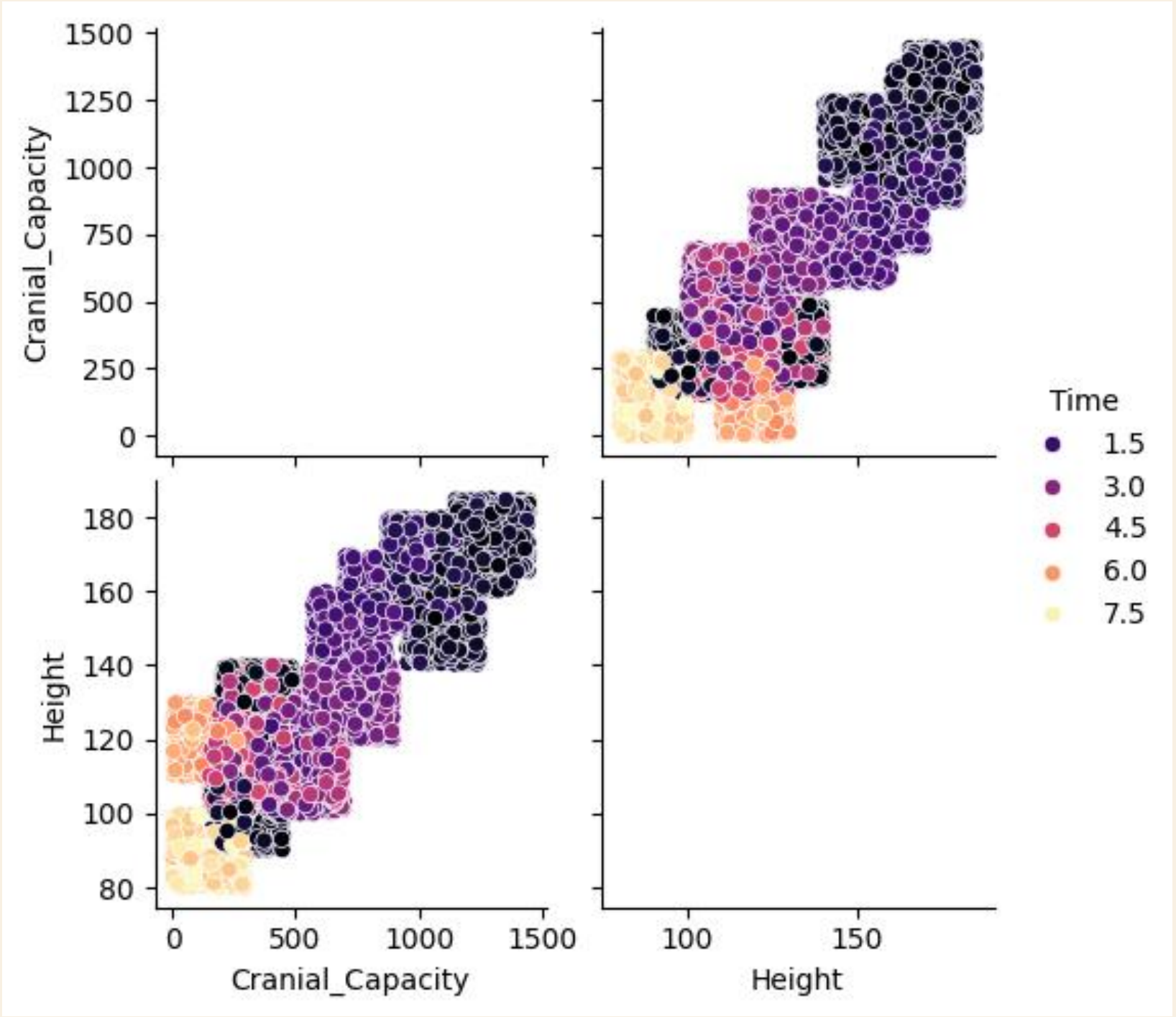




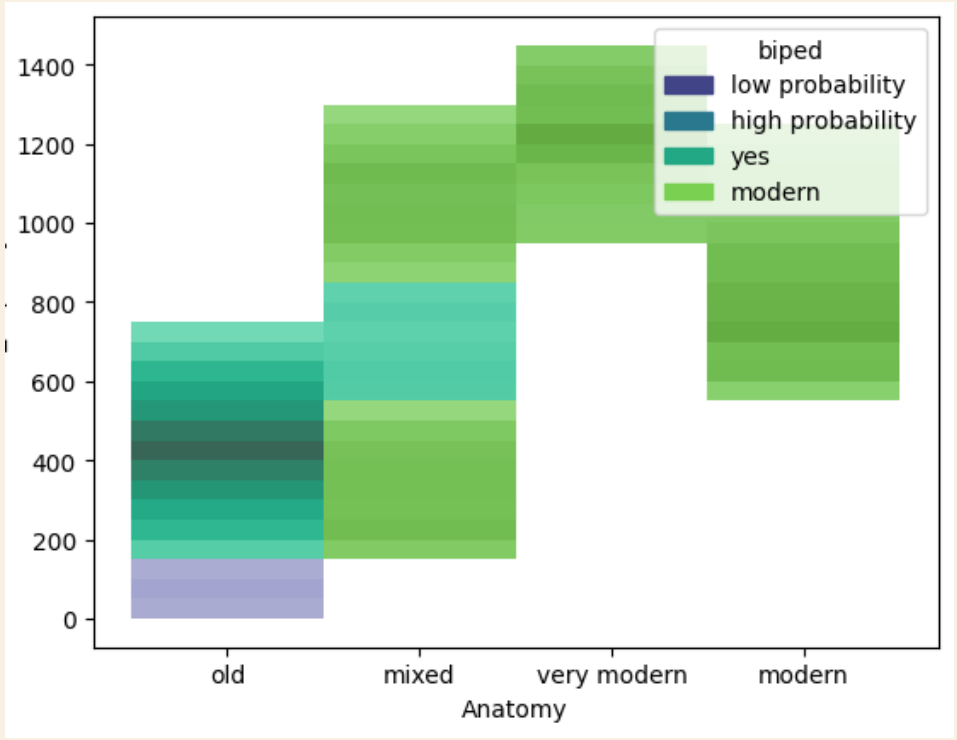
INCISOR SIZE VS SKELETON

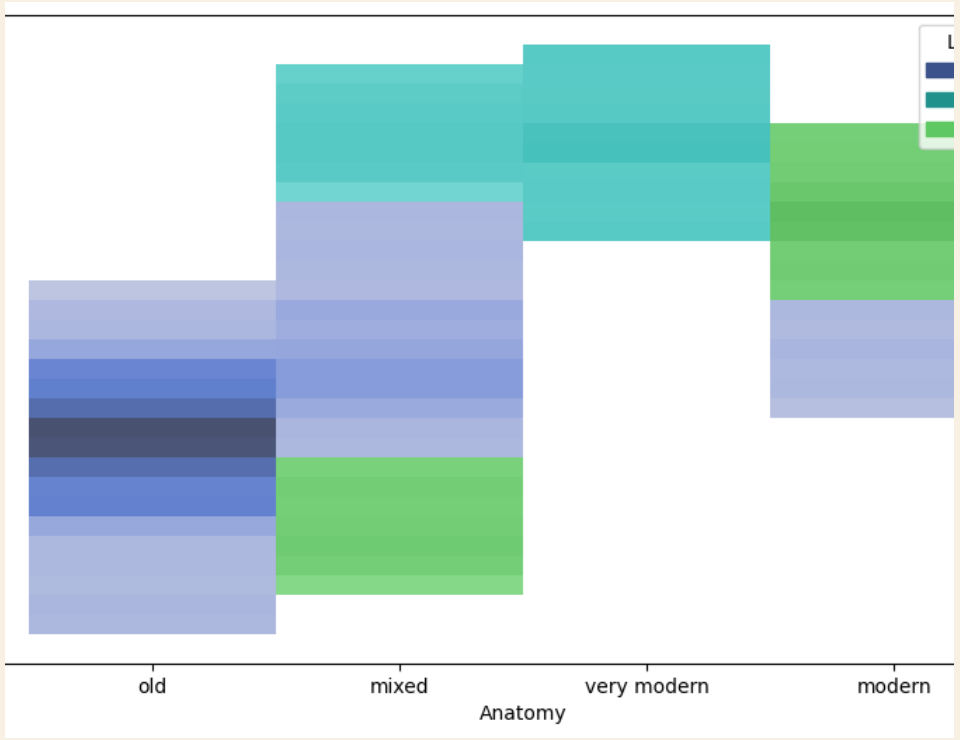




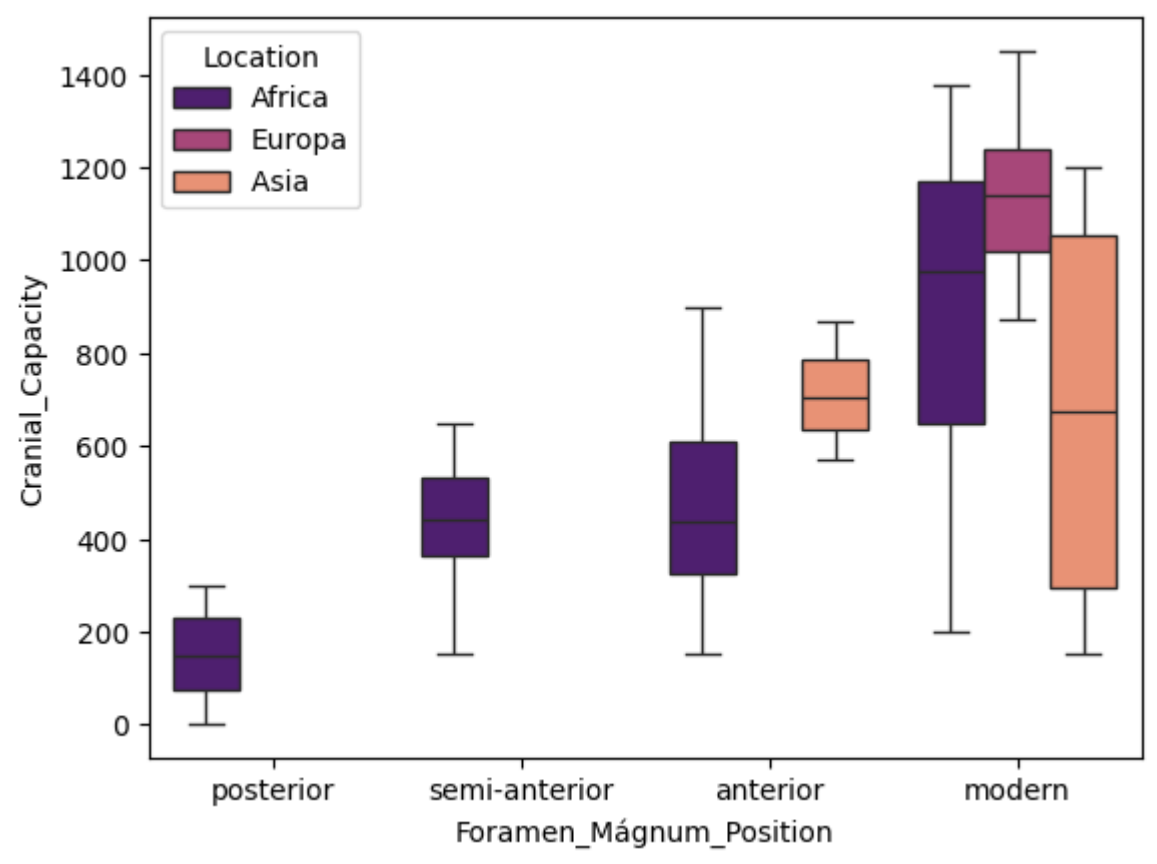

Cranial_Capacity
1500
1250
1000
750
500
250
0
Height
180
160
140
120
100
80
0
500
1000
1500
Cranial_Capacity
100
150
Height
Time
1.5
3.0
4.5
6.0
7.5

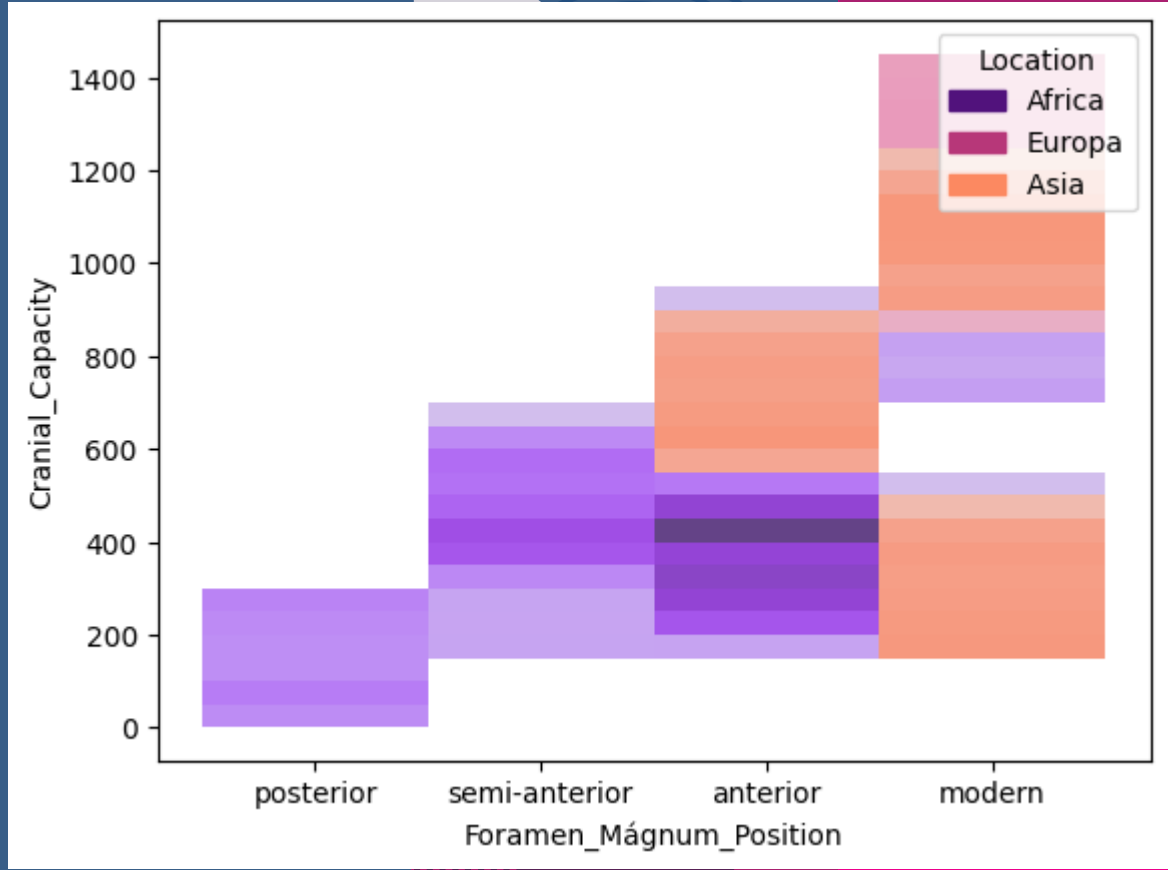
ANATOMY: HEIGHT, CRANIAL CAPACITY



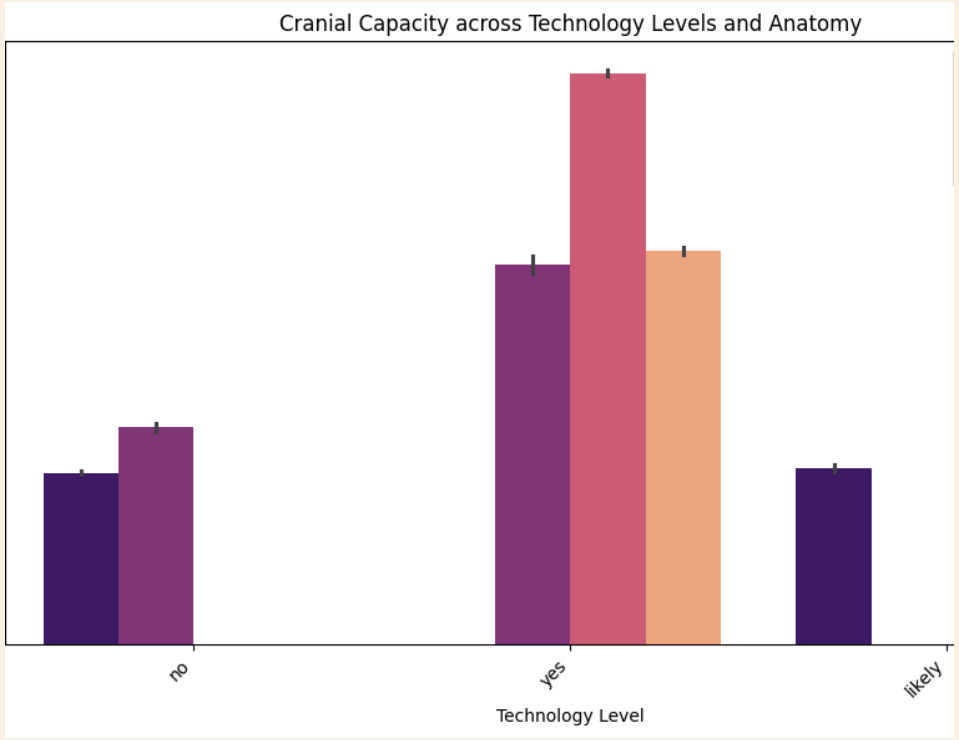


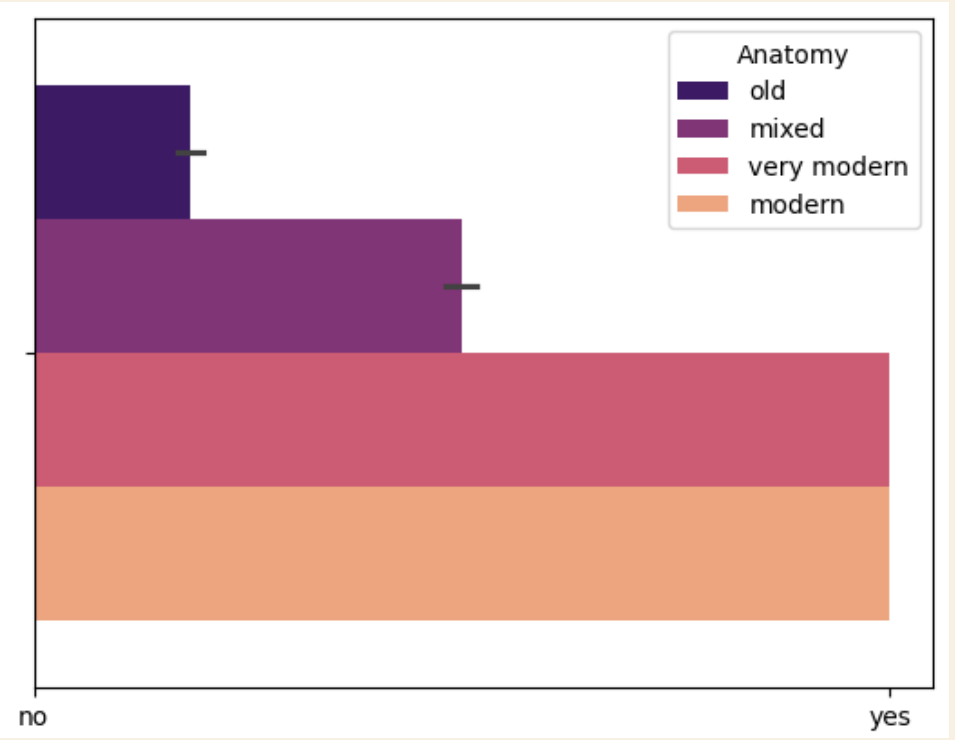
FORAMEN MAGNUM POSITION



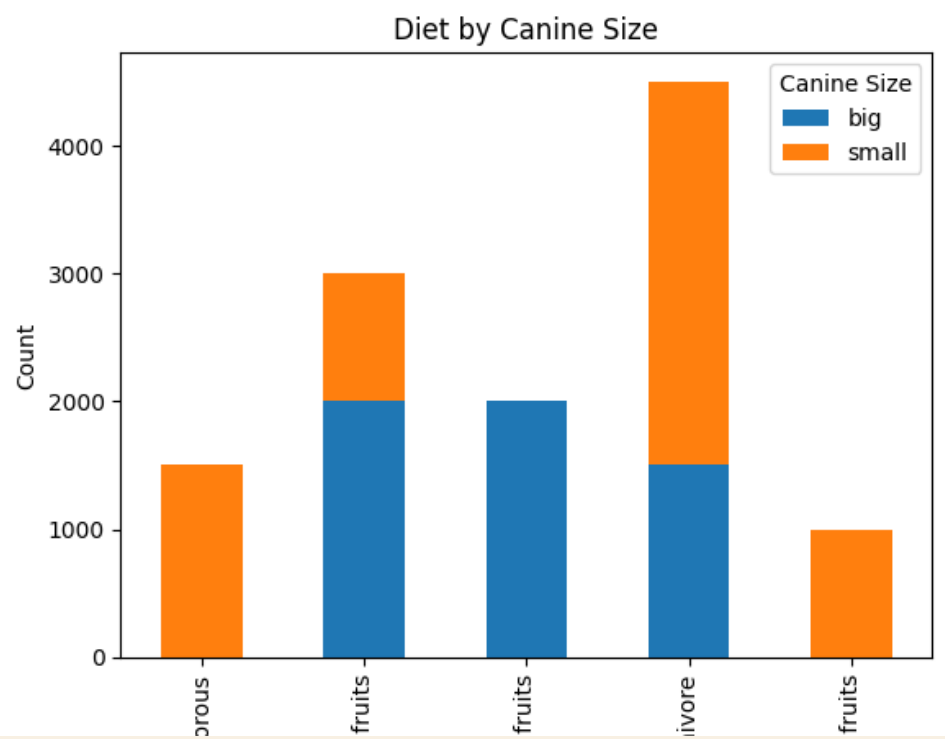


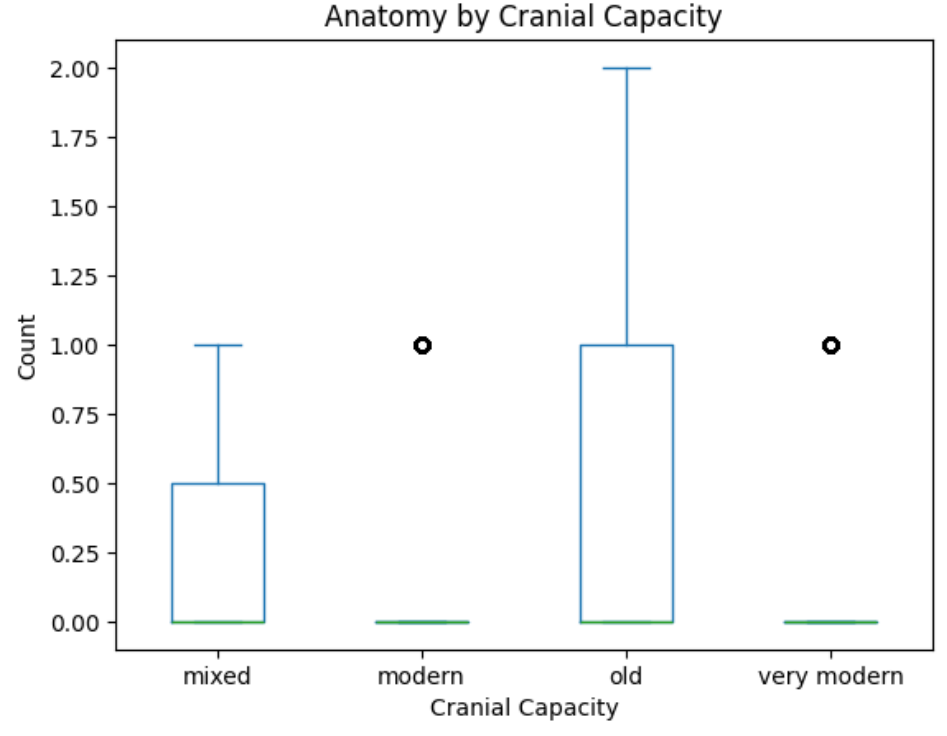
TECHNOLOGY


Cranial Capacity across Technology Levels and Anatomy
no
yes
likely
Technology Level

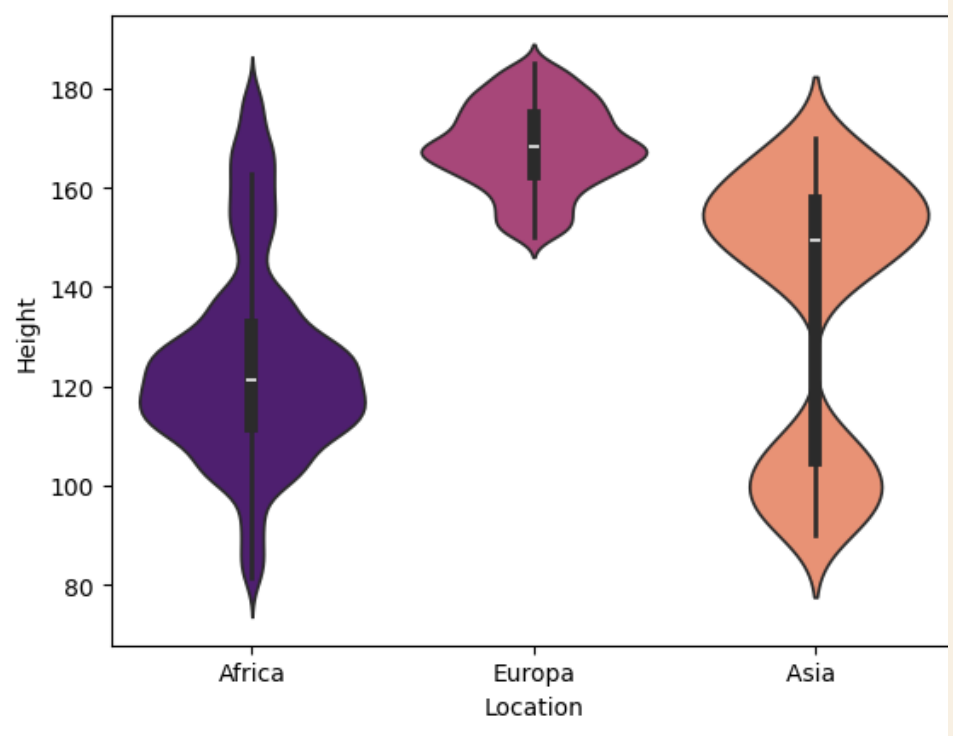

Anatomy
old
mixed
very modern
modern
no
yes

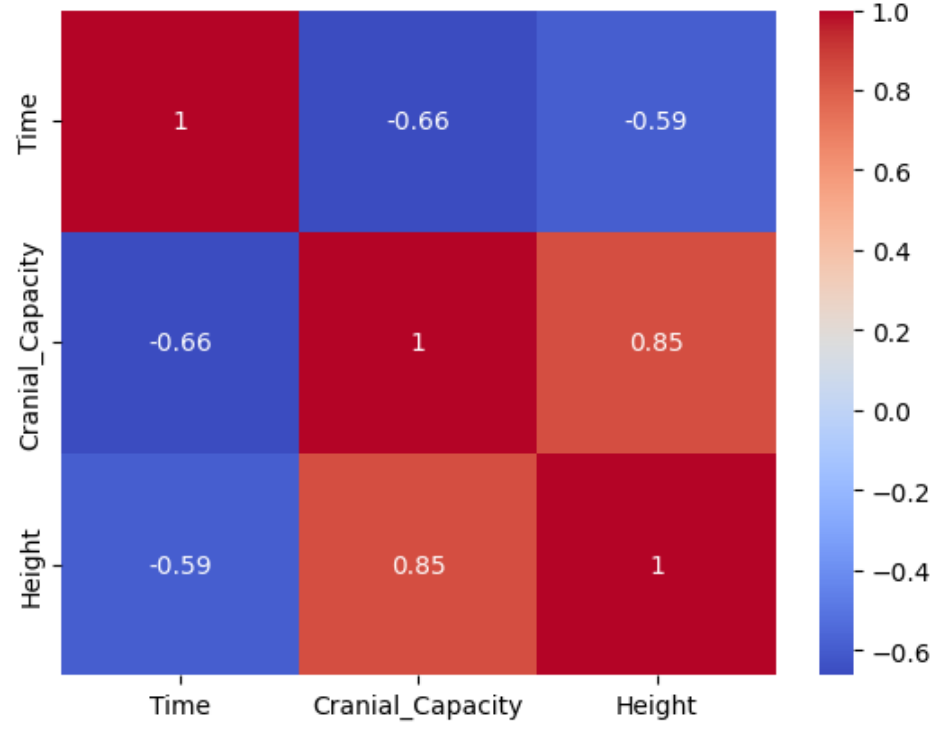
CANINE SIZE; DIET; ANATOMY BY CRANIAL CAPACITY

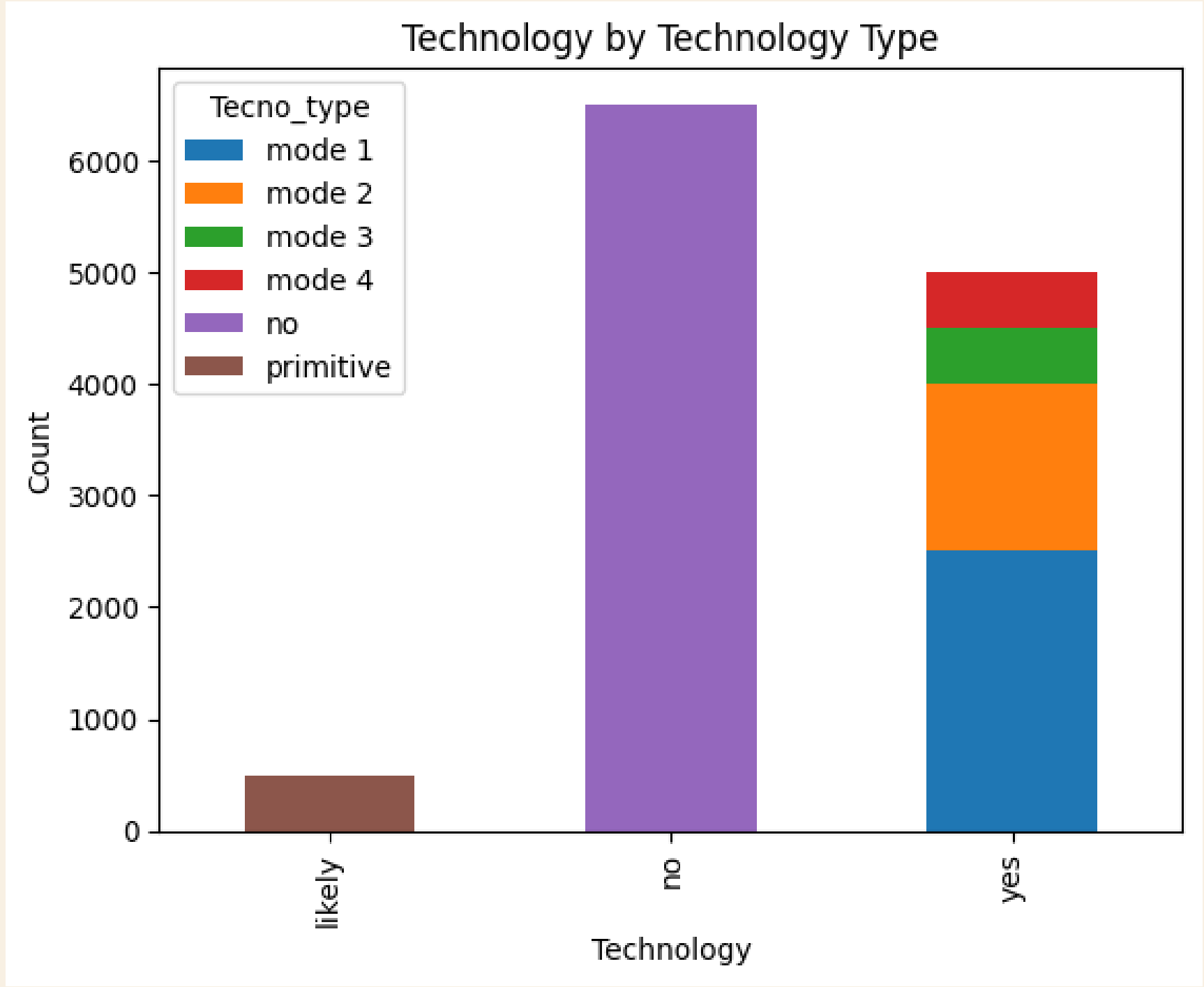


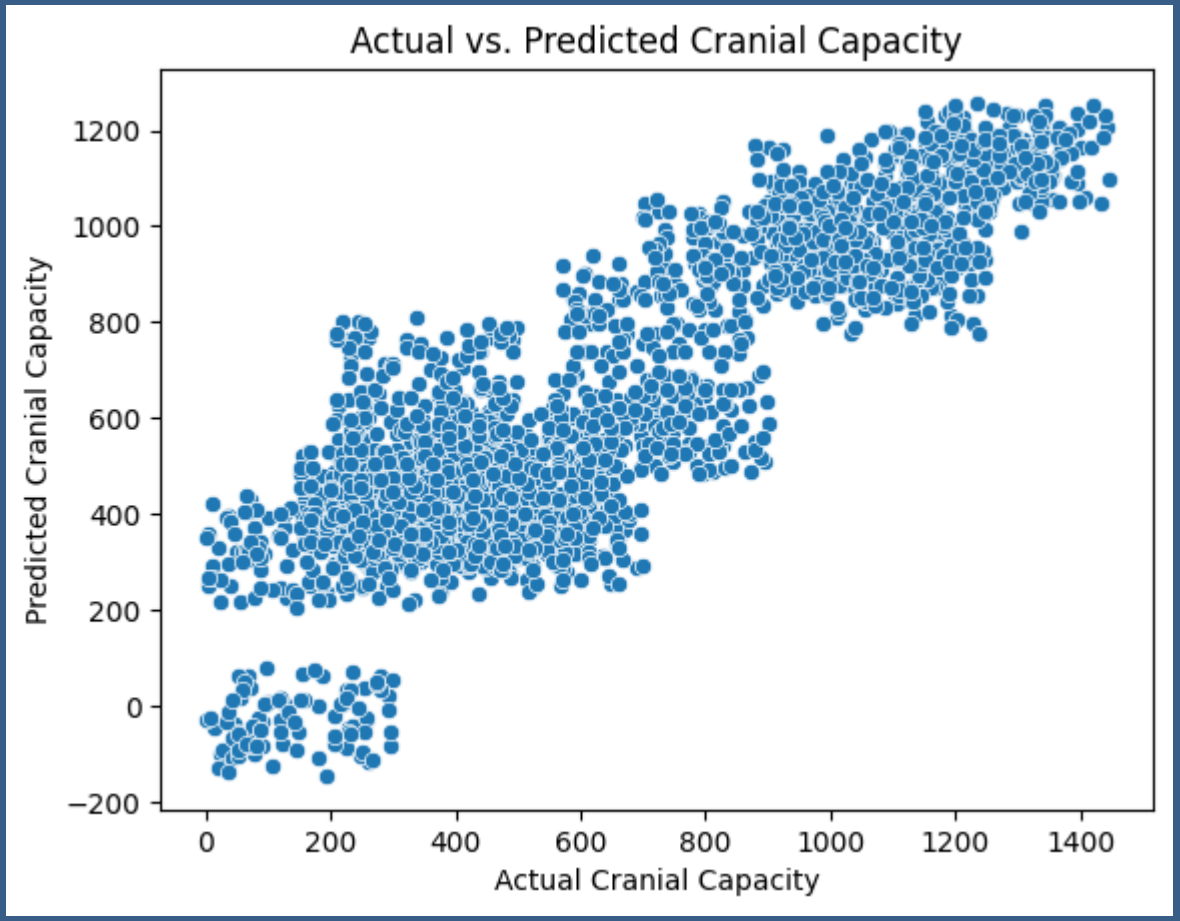


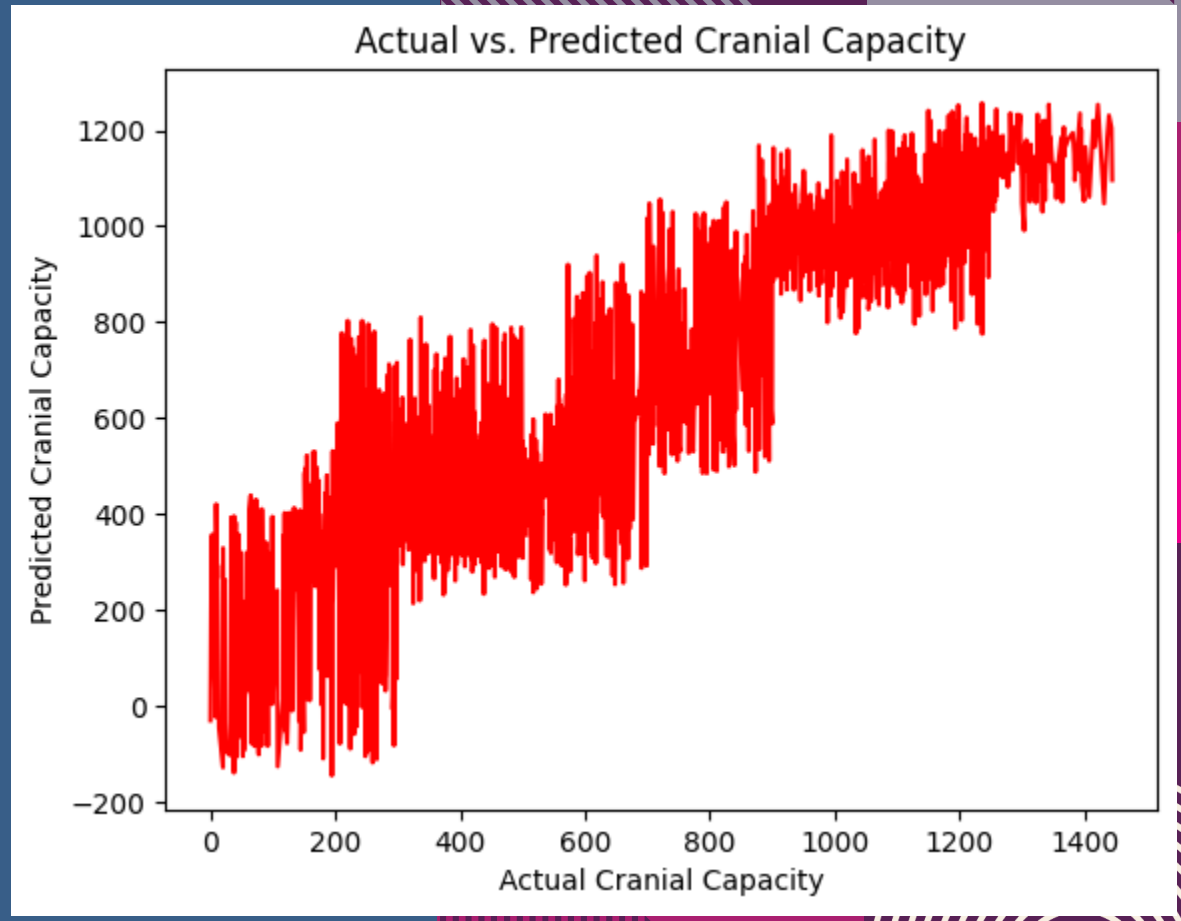
LOCATION, HEIGHT, CRANIAL CAPACITY, TIME






Technology by Technology Type
Tecno_type
mode 1
mode 2
mode 3
mode 4
no
primitive
Count
6000
5000
4000
3000
2000
1000
0
likely
no
yes
Technology


Actual vs. Predicted Cranial Capacity
Predicted Cranial Capacity
Actual Cranial Capacity
1200
1000
800
600
400
200
0
−200
0
200
400
600
800
1000
1200
1400


Actual vs. Predicted Cranial Capacity
Predicted Cranial Capacity
Actual Cranial Capacity
1200
1000
800
600
400
200
0
−200
0
200
400
600
800
1000
1200
1400

THANK YOU

NAZIM ATAKAN ERDOGAN