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Project\_Olympian

### **Team Members**

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### **Background**

* The Olympics are a time when the world rallies behind their flag and hope its best athletes succeed over every other country. Winning is a source of pride, not just for the athlete competing, not for the athletic associations that trained them, but for every person in that country. But does a country’s economic and political situation affect how well it will perform in the Olympics?

### **Motivation**

Wanting to see whether or not a country's political, economic, health, stability plays a role in how well top athletes perform. Will hardship spur on a drive to success, or will these stressors negatively affect their performance? It would be interesting to see how these relatable struggles inspire or hinder the best of the best athletes.

### **Purpose**

Use a combination of country development indicators to find correlation as we as predict how well a country performs in the olympics.

### **Questions to answer**

* How do Economic Conditions Influence Olympic Performance?
* What Role Does Political Stability Play in the Consistency of Olympic Medal Wins for Nations?
* How Do Natural Disasters Affect the Training and Performance of Athletes Leading Up to the Olympics?

### **Tools/Modules to use**

* Python
* Pandas
* Matplotlib
* NumPy
* SciPy
* Scikit
  + Preprocessing
  + scaling
* Tensorflow (keras)
  + Hyperparameter adjustment
* mongoDB
* Tableau

### 

### **Data sets to use**

List all possible databases you’ll use

* Country Data - data-explorer.oecd.org, databank.worldbank.org, public.emdat.be
  + Organization for Economic Co-operation and Development
  + Economic and political data by country/year
  + Disaster data
* Olympic History - Kaggle
  + <https://www.kaggle.com/code/ducninhvo/olympics-dataset-120-years-of-data/notebook#1.-Get-familiar-with-the-dataset>

### **Tasks Breakdown**

Student 1: Collect/Clean the data.

Student 2: Dashboard and ….

Student 3: Visualization and ….

Student 4: Presentation and … . **Tasks and timeline**

| **Date** | **Task** | **Notes** |
| --- | --- | --- |
| **8/1/24** | Project Proposal |  |
| **8/2/24** |  |  |
| **8/3/24** | Data Structures cleaned up |  |
| **8/4/24** |  |  |
| **8/5/24** | Model Creation | Choose what type of model-spark, tensorflow, aws, scikit… |
| **8/6/24** | Model testing / data adjustments |  |
| **8/7/24** |  |  |
| **8/8/24** | Data for 2024 olympics for prediction | Do we want to add this to an interactive webpage to select a country and have it guess how many medals they will receive this year? |
| **8/9/24** |  |  |
| **8/10/24** | Polish our model |  |
| **8/11/24** |  |  |
| **8/12/24** | Finalize Presentation |  |
| **8/13/24** | Presentation Day |  |
| **8/14/24** |  |  |

### **Presentation**

Divide your presentation steps to tasks and assign it to members.

Suggested by:  
Khaled Karman

**Structure**:

Features:

* Country (or index?)
* Year
* Total # Athletes sent
* Average age (M/F)
* Average height (M/F)
* Average weight (M/F)
* Population
* GDP
* Military deployed (y/n)
* Percent of gdp in education
* Average adult level of education
* Percent people in the workforce
* Trust in the national government (only 2021 data found)
* Air pollution
* Average retirement age
* Healthcare quality
* Climate conditions
* Tourism Income (Earliest data is only 2008)
* Major natural disasters in the last 10 years? (y/n?)
* Trust in courts and legal system,(only 2021 data found)
* How people perceive the health of their country,
* Absence of violence or terrorism
* Control of corruption

Target:

* Number of Olympic Medals Earned

If we narrow it down, here is the list of countries:

Australia, France, Germany, Great Britain, Italy, Japan, Norway, Sweden, USA

Paris olympics countries

### **Africa**

Algeria - ALG

Angola - ANG

Benin - BEN

Botswana - BOT

Burkina Faso - BUR

Burundi - BDI

Cameroon - CMR

Cabo Verde - CPV

Central African Republic - CAF

Chad - CHA

Comoros - COM

Congo - CGO

Democratic Republic of the Congo - COD

Côte d’Ivoire - CIV

Djibouti - DJI

Egypt - EGY

Eritrea - ERI

Eswatini - SWZ

Ethiopia - ETH

Gabon - GAB

Gambia - GAM

Ghana - GHA

Guinea - GUI

Guinea-Bissau - GBS

Equatorial Guinea - GEQ

Kenya - KEN

Lesotho - LES

Liberia - LBR

Libya - LBA

Madagascar - MAD

Malawi - MAW

Mali - MLI

Morocco - MAR

Mauritius - MRI

Mauritania - MTN

Mozambique - MOZ

Namibia - NAM

Niger - NIG

Nigeria - NGR

Uganda - UGA

Rwanda - RWA

Sao Tome and Principe - STP

Senegal - SEN

Seychelles - SEY

Sierra Leone - SLE

Somalia - SOM

South Africa - RSA

South Sudan - SSD

Sudan - SUD

United Republic of Tanzania - TAN

Togo - TOG

Tunisia - TUN

Zambia - ZAM

Zimbabwe - ZIM

### **The Americas**

Antigua and Barbuda - ANT

Argentina - ARG

Aruba - ARU

Bahamas - BAH

Barbados - BAR

Belize - BIZ

Bermuda - BER

Bolivia - BOL

Brazil - BRA

Cayman Islands - CAY

Canada - CAN

Chile - CHI

Colombia - COL

Costa Rica - CRC

Cuba - CUB

Dominican Republic - DOM

Dominica - DMA

El Salvador - ESA

Ecuador - ECU

Grenada - GRN

Guatemala - GUA

Guyana - GUY

Haiti - HAI

Honduras - HON

Jamaica - JAM

Mexico - MEX

Nicaragua - NCA

Panama - PAN

Paraguay - PAR

Peru - PER

Puerto Rico - PUR

Saint Kitts and Nevis - SKN

Saint Lucia - LCA

St. Vincent and the Grenadines - VIN

Suriname - SUR

Trinidad and Tobago - TTO

United States of America - USA

Uruguay - URU

Venezuela - VEN

Virgin Islands, British - IVB

Virgin Islands, US - ISV

### **Asia**

Afghanistan - AFG

Bahrain - BRN

Bangladesh - BAN

Bhutan - BHU

Brunei Darussalam - BRU

Cambodia - CAM

People’s Republic of China - CHN

Republic of Korea - KOR

Hong Kong, China - HKG

India - IND

Indonesia - INA

Islamic Republic of Iran - IRI

Iraq - IRQ

Japan - JPN

Jordan - JOR

Kazakhstan - KAZ

Kyrgyzstan - KGZ

Kuwait - KUW

Lao People’s Democratic Republic - LAO

Lebanon - LBN

Malaysia - MAS

Maldives - MDV

Mongolia - MGL

Myanmar - MYA

Nepal - NEP

Oman - OMA

Pakistan - PAK

Palestine - PLE

Philippines - PHI

Qatar - QAT

Democratic People’s Republic of Korea - PRK

Saudi Arabia - KSA

Singapore - SGP

Sri Lanka - SRI

Syrian Arab Republic - SYR

Tajikistan - TJK

Chinese Taipei - TPE

Thailand - THA

Democratic Rep. of Timor-Leste - TLS

Turkmenistan - TKM

United Arab Emirates - UAE

Uzbekistan - UZB

Vietnam - VIE

Yemen - YEM

### **Europe**

Albania - ALB

Andorra - AND

Armenia - ARM

Austria - AUT

Azerbaijan - AZE

Belgium - BEL

Bosnia and Herzegovina - BIH

Bulgaria - BUL

Cyprus - CYP

Croatia - CRO

Czechia - CZE

Denmark - DEN

Spain - ESP

Estonia - EST

Finland - FIN

France - FRA

Georgia - GEO

Germany - GER

Great Britain - GBR

Greece - GRE

Hungary - HUN

Ireland - IRL

Iceland - ISL

Israel - ISR

Italy - ITA

Kosovo - KOS

Latvia - LAT

Liechtenstein - LIE

Lithuania - LTU

Luxembourg - LIE

North Macedonia - MKD

Malta - MLT

Republic of Moldova - MDA

Monaco - MON

Montenegro - MNE

Netherlands - NED

Norway - NOR

Poland - POL

Portugal - POR

Romania - ROU

San Marino - SMR

Serbia - SRB

Slovakia - SVK

Slovenia - SLO

Sweden - SWE

Switzerland - SUI

Türkiye - TUR

Ukraine - UKR

### **Oceania**

American Samoa - ASA

Australia - AUS

Cook Islands - COK

Fiji - FIJ

Guam - GUM

Kiribati - KIR

Marshall Islands - MHL

Federated States of Micronesia - FSM

Nauru - NRU

New Zealand - NZL

Palau - PLW

Papua New Guinea - PNG

Solomon Islands - SOL

Samoa - SAM

Tonga - TGA

Tuvalu - TUV

Vanuatu - VAN