INTRODUCTION TO NETFLIX

* American company which:
  1. Renders video on demand service
  2. Has about 148 million subscribers
  3. Revenue of 25.8 billion in 2019.

HOW DOES IT USE PYTHON

* Use python through full content lifecycle, from deciding content to fund all the way to operating CDN that serves the final to 148 million members

1. Open Connect:
   1. CDN (Content Delivery Network)
   2. Comes in picture after you hit ‘play’ button
   3. Looks after all content users want to watch
2. Demand Engineering
   1. Responsible for handling:
      1. Regional Failovers
      2. Traffic Administration
      3. Capacity Operations Management
      4. Fleet Efficiency
   2. Libraries
      1. NUMPY
      2. SCIPY
      3. BOTO 3
      4. REDIS
      5. FLASK
3. Machine Learning
   1. Renders from:
      1. Creating personalization algorithms to figuring out the use cases.
      2. Provides personalized recommendations.
      3. Outlines on day to day basics
      4. Label generations etc
   2. Libraries
      1. TensorFlow
      2. Keras
      3. PyTorch
      4. XGBoost
      5. MetaFlow
4. Big Data
5. Scientific Experimentation
   1. Scientific experimentation team to allow A/B Testing
   2. Python Frameworks used are:
      1. Metrics Repo which is based on PyPika to write reusable code.
      2. Statistics sector uses PyArrow and RPy2.
      3. Visualizations is done using Plotly.
6. Video Encoding
   1. Responsible for encoding and re-encoding tasks.
   2. Python is approximately used for 50 projects such as VMAF and MezzFS.
   3. Computer-Vision Solutions (deals with imagery) using Archer etc
7. Netflix Animation and NVFX
   1. Python forms the base for all Animations and Visual Effects (VFX) at Netflix. All of the Maya and Nuke unions are done on Python.
8. Information Security
   1. Most native open source Python Project of team is Security Monkey.
   2. Uses BLESS to protect SSH Resources.
   3. RepoKid is used to grants IAM permissions and TLS certificates are allotted through Lemur.
   4. Both task rely on Python.
9. Monitoring and Auto-Remidation
   1. Auto Remediation System
      1. Event-Listner
      2. Rules to respond to events
      3. Workflow engine (Runs automation)
   2. Insight Engineering Team:
      1. Build and execute tools for operational insight. Diagnostics, auto-remediation and altering.
      2. Make uses of python for most of its services
      3. Example the Spectator Python client library
      4. Products like Winston and Bolt are also built on Python frameworks.