ALLAMA-BOT

An Artificial Intelligence that writes Urdu Shayari

https://github.com/taimurshaikh/Allama-Bot

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Preface

In the age of technology, digitalization infiltrates into almost every aspect of our lives. Despite this, creativity is still attributed as an exclusively human notion, unable to be simplified into an algorithm. We strive to change that. Combining the spheres of art and Artificial Intelligence marks a new dawn in innovation whilst expanding the horizons of the applications of Artificial Intelligence.

Project Overview

'Allama-Bot' is a project that uses an NLP Artificial Intelligence program to generate Urdu Shayari, primarily ghazals, in the style of Urdu and Persian poet Allama Muhammad Iqbal.

Currently, the machine can output lines from a set of Urdu words it has generated by training on a data set of roughly 10,000 lines of Iqbal's works across all 4 of his Urdu poetry collections. This will be elaborated upon under the following headers.

KEY DETAILS

- The bot is being written using the Python programming language
- The AI itself operates via a neural network that trains on the 10,000-line dataset and learns common properties of words, as well as sequences of words. The neural network employs linguistic techniques to extract patterns from the text, and then generate lines on its own.
- TensorFlow, a library created by Google's Machine Learning division, was used to implement the neural network and processing of the input data.
- The dataset has been taken from a GitHub repository that contains .txt files of all of Iqbal's works. This can be found by following the link on the cover page.
- As of now, the project pipeline operates with the following major steps:
  - o 'Cleaning' of the data to ensure there were no alien characters that could interfere with the AI's learning.
  - o The text from the dataset is then fed into a pre-processing script which creates a word index, mapping specific words to numbers.

- o This word index is used as the training inputs. The bot's neural network attempts to predict what the next number should be given a sequence of numbers from the word index. It loops over the dataset continuously to select these examples. It uses the accuracy of predictions for each loop to adjust itself and 'learn' over time to make better decisions.
  - o Once the model has been trained, it is used to generate a new set of lines by starting with one word, then predicting some number of words that should come after it. This new set of lines is outputted to a new .txt file.
  - o To generate new poems, a set of lines from the output file is chosen and divided into shers (couplets). After multiple sets have been chosen to generate multiple poems, they are outputted.
  - o What has **NOT** been implemented yet is the process of selecting shers such that the individual lines follow the rhyme scheme of the given form of Shayari. Our primary scope is to limit this to just ghazals, so the program will need to select lines such that the lasts parts of each sher rhyme as well having a common refrain word/phrase that is repeated throughout the ghazal.
- The code is stored on a public GitHub repository which can be found on the title page of this document. This repo also contains links to sources of inspiration, including Google's own NLP tutorials.

Example Poems

Below are 3 example poems generated by the bot in its current, unfinished state, with the corresponding (rough) English translations below them.

Poem 1:

Khalwaton

Hakikat woh khak ke hai jis ka khalwaton baraat betabi e
Shafaq wujood ke uthte e parwana ki neelgun ishq se hai

Aap hai main ne wa garm hai gharat e bujha ne
Noor se tareek ho jin hai behisht e nazar kar de

Nazaakat woh khak ke hai jis ka khalwaton baraat betabi e
Ba-dastoor hai na khud souz to rawan e bad mujh

Hayaa woh khak ke hai jis ka khalwaton baraat betabi e
mah rome mere daman hain muheet tera samjhe tha

Jang al jab hum pa na kar be alam bebaak
Tabahi nahin kuch iss mein zameen o dehqan asar o

Solitude

The reality is that of the dust whose solitude is desperate
Twilight is from the blue love of the rising butterfly of existence

You are the one who has extinguished the heat
Be darker than the light, look at the paradise

Delicacy is that of the dust whose solitude is impatient
It is not lawful for me to burn myself

Shame is the dust of solitude
The honeycombs are at my feet

When we don't find the war, we are ignorant and fearless
Destruction is not something that affects the land and the peasantry

Poem 2:

Hazar

Ujaar Woh Zaar Mein Tha Jo Ye Hind Ho Ga Roshan
Chandani Ko Ye Bazm e Naam Khud Saadat Ae Shayar e

Taba-e-Zamana Be Arjumand De Mujh Ko Na Maidan Anjuman E Ankh
Hum Na Ho Rukhsar Apne Hasil Rakhta Se Har Mehfil Se

Haye e Hazar Ke Jaage Se Hai Lekin Ye Lage Hai
Jalwah Ki Dagh e Un Ke Hain Sub Ko Jati e

Taveel Sukhan Hai Ke Bazm Be Hari Hai Hangamon Se Reh
Rahi Sourish Ko Goya Sabab Hazaron Hun Main Ne Zamana

Thousand

The desolation is in the czar that India would be enlightened
The moon is blessed with this name of the feast, happiness itself, O Lion

Give me no time, no field of association
We don't have a face to face with every party

Yes, it is from a thousand places, but it seems
The scars of appearance are theirs, they go to everyone

The interpretation is that the group is apathetic, stay away from commotion

As for the sun, there are thousands of reasons

Poem 3:

Iskandari

Bal Hunar Hai, Shikwa e Haq Bhi Hai Tera Sada Ka
Sukoot-e-Sham-e-Judai Hai Har Ek Khazan e Torh Mein Hai Taleem e

Pathar Meri Faqeeh Hazir Numa Chashmon Durran Se Bhi Hai Mata
Fitrat-E-Iskandari Mein Shab Hai Diwana o Poojari Se Gashta e Afkar

Sanobar Kis Badan Ho, To Phir Iqbal Bhi Na Rahe Falsafa
Dil-e-Ghameen Phoolon Na Ho, Iss Ki Ye Dair Be Inqilab De

Unhi Ke Liye Tu Raha Dil e Yahan Paida Na Ho
Dost Bala e Gyi Ki Khs Di Mujhe Ne Kiya Anjam

Alexandria

Bill is skill, glory is also the truth of your simplicity
There is silence of the night of separation, education in every autumn

The stone is also from my jurist's present-day springs, Mother
It is night in the nature of Alexandria, past thoughts from a madman and a priest

If there is a pine tree, then Iqbal is no longer a philosopher
Let the hearts sorrows not be a flower, give this scope of it without revolution

Let the heart not be born here for them
What was the result when my friend called me?

Concluding statement

Although far from perfection, the bot has enormous potential to capture the essence of Iqbal's writing and would be the first of its kind on the market. As a tribute to the incredible poet, 'Allama -Bot' could help keep Iqbal's legacy alive in a dynamic and contemporary era. We are also looking to secure a partnership with Javed Manzil (Allama Iqbal Museum) in Lahore such that a collection of this AI-generated poetry can be featured as an exhibit.