

# Using Markov Chain Text Generators to Facilitate Found Poetry Creation

## Module Overview

The combination of AI and artistic or literary techniques provides a unique opportunity for students and practitioners from both communities to simultaneously achieve Learning Outcomes from both fields, as well as LOs situated at the intersection of those fields. In this Model AI Assignment, we show students how simple AI techniques can be combined with Found Poetry techniques to create unique poetic works that raise challenging questions regarding the relationship between algorithm and poet, and between technology and society.

Specifically, we present an educational activity, suitable for complete AI novices, in which students are (1) provided with code for a Markov Chain based text generation algorithm, (2) instructed in how to create novel *blackout poems* using the text generated by this algorithm, and (3) asked to reflect on the creative relationship between themselves and the algorithm. Furthermore, we provide supplementary guidelines for adapting this activity to tailor it to different communities and use cases, allowing it to be used with either coders or poets, and as either an outreach activity or a formal class assignment.

## What is included

Under **Core Materials**, you will find (1) a very short presentation (with presenter notes), that introduces the concept of Blackout Poetry, and (2) a handout for students, which includes a link to [this Google Collab](#) notebook that students can use to generate text using Markov Chains (running this notebook is extremely simple and should be accessible to any undergraduate student regardless of major), and then instructs them to use the generated text in order to create blackout poems. It also includes a list of reflection questions which introduce ethical issues and stimulate critical thinking about digital humanities. These questions could be utilized as an individual assignment or group discussion.

Under **Examples**, you will find a set of pre-generated texts generated using this method. By using these pre-generated texts, you can easily deploy this module as a K-12 outreach activity, in which you go through the core slides, then *verbally describe* (1) that the text samples you'll be handing out were generated by a computer, and (2) how the students should use those samples to create blackout poetry.

Under **Supplemental Materials** you will find two supplementary slide decks and two supplementary handouts. These materials may be used to tailor the assignment to computer science or poetry undergraduates.

1. First, you will find a short slide deck introducing Markov Chains and the math behind them, in order to use this activity as a more substantial course module in Computer Science classes. This module would be suitable either for an AI class or a CS1 class.
2. Second, you will find a short slide deck introducing the background/theory of Found Poetry, in order to use this activity as a more substantial course module in Poetry classes. This module would be suitable either for an upper-level poetry workshop or an introductory creative writing class.
3. Third, you will find a variant hand-out tailored to CS students that further extends the module to have a more substantial CS coding challenge. In this variant handout, the Google Collab notebook is provided as a motivating example; students are then asked to create a Python notebook in which they code a Markov Chain text generator by hand without using existing libraries such as Markovify. The handout includes the reflection questions mentioned in **Core Materials**.
4. Finally, you will find a variant handout tailored to Poetry students that further extends the module to have a more substantial creative writing challenge. In this variant handout, students are instructed to create a *portfolio* of poems that use three different blackout techniques. The handout includes the reflection questions mentioned in **Core Materials**.