Introducing Python & Poetry

Sara Morrell and Kasya O'Connor Grant
ENGL/HIST 3340
Professors Jessica Linker and Erika Boeckeler
Spring 2024

Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Workshop Agenda

- Computational poetry example and discussion
- Python poetry
- Introduction to Python and Google Colab
- Generative AI
- Discussion

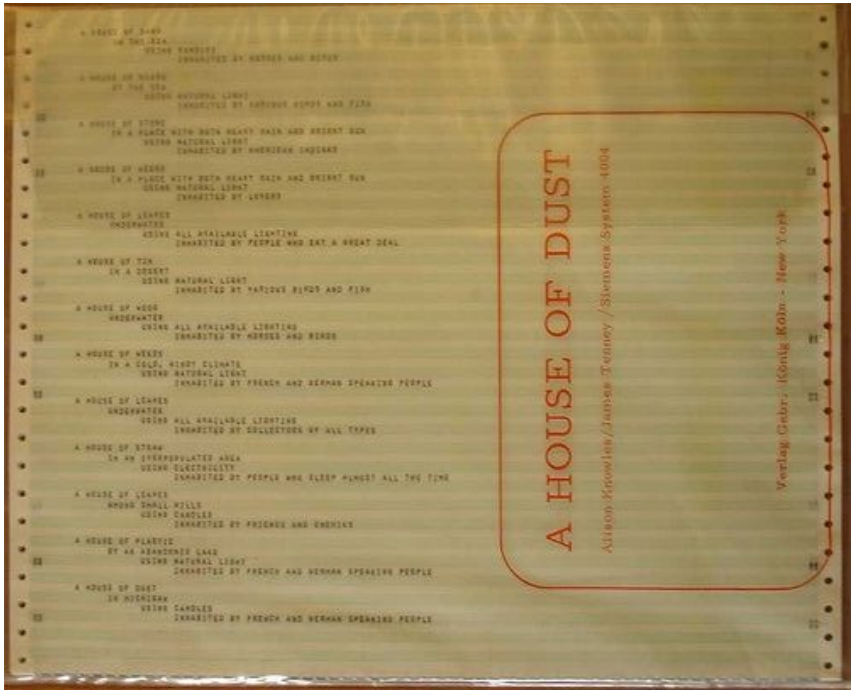
Slides and Python notebooks available at
https://bit.ly/sp24-linker-boeckeler-engl3340-python-poetry

Python notebooks are also available in a Google Drive folder (make a copy)
SP24-Linker-Boeckeler-PythonPoetry_StudentAccess

Feel free to ask questions at any point during the presentation!

Example: A House of Dust

- Poem by Alison Knowles and James Tenney (1967)
- Code reimplemented in Python by Nick Montfort
- Google Colab notebook StudentAccess-HouseOfDust Example



Feel free to ask questions at any point during the presentation!

Example: A House of Dust

- Based on the code for A House of Dust, what are the four main building blocks of the poem?
- Can you tell which decisions were made by the author and which are random?
- Can you describe the process of how this poem was written?
- How does this poem differ from traditionally written poems?

Feel free to ask questions at any point during the presentation!

Writing Poetry in Python

- Computational poetry using predefined words and lines
  - "House of Dust" by Alison Knowles and James Tenney (1967)
  - "A Travesty Generator for Micros" by Hugh Kenner and Joseph O'Rourke (1984)
  - *Travesty Generator* by Lillian-Yvonne Bertram (2019)
- AI-generated poetry

Feel free to ask questions at any point during the presentation!

Python & Google Colaboratory

Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Python Google Colab Notebooks

Introduction to Python and Google Colab Notebook: This notebook introduces the fundamentals of Python and provides example code for creating computational poetry. We will use it in class, and you can refer back to it.

Python Poetry Template Notebook: This notebook is a template with some starter code to help you create your own computational poem.

Make a **copy** of each notebook and save it to your personal Google Drive.

Feel free to ask questions at any point during the presentation!

Python Review

- Variables
- Strings
- Lists
- Dictionaries
- Selecting data from lists and dictionaries
- Print function
- Import random module
- Random.randint() function

Feel free to ask questions at any point during the presentation!

Generative AI

Northeastern University
NULab for Texts, Maps, and Networks

Feel free to ask questions at any point during the presentation!

Important AI vocabulary

- Artificial Intelligence (AI): Combining datasets and computer science to solve problems.
- Supervised machine learning: An algorithm classifies or predicts based on its prior training with a labeled dataset
- Unsupervised machine learning: An algorithm finds patterns or groups in data without prior training
- Generative AI: An algorithm that produces content
- Markov Chains: A series of occurrences where each one depends only on the one directly before
- Embedding: Numerically represents a piece of data

Feel free to ask questions at any point during the presentation!

Generative AI

- Uses unsupervised machine learning and other computational methods, such as Markov chains and embeddings, to learn how to generate content
- The type of dataset used to develop the generative AI determines what it can do

Feel free to ask questions at any point during the presentation!

Example: Verse by Verse

- Google Verse by Verse
  - Uses a generative model to create lines of poetry
  - Uses a semantic model to determine the best next line of poetry
- About Google Semantic Experiences

Feel free to ask questions at any point during the presentation!

AI Ethics Resources

- The Institute for Experiential AI at Northeastern
- United Nations Educational, Scientific and Cultural Organization Global Forum on the Ethics of AI 2024

Feel free to ask questions at any point during the presentation!

Post-exploration group discussion

- Do you have any reflections on using Python for constructing poetry?
- How does the writing process differ from traditional poetry?
- How might the code impact the readers perception of the poem?
- How might you use this in the future?

Feel free to ask questions at any point during the presentation!

Thank you!

—Developed by Sara Morrell, Dipa Desai, and Kasya O'Connor Grant

- For more information on the DITI, please see: https://bit.ly/diti-about
- Schedule an appointment with us! https://bit.ly/diti-meeting
- If you have any questions, contact us at: nulab.info@gmail.com
- We'd love your feedback! Please fill out a short survey here: https://bit.ly/diti-feedback

Feel free to ask questions at any point during the presentation!