Co-Writing Screenplays & Theatre Scripts with Language Models
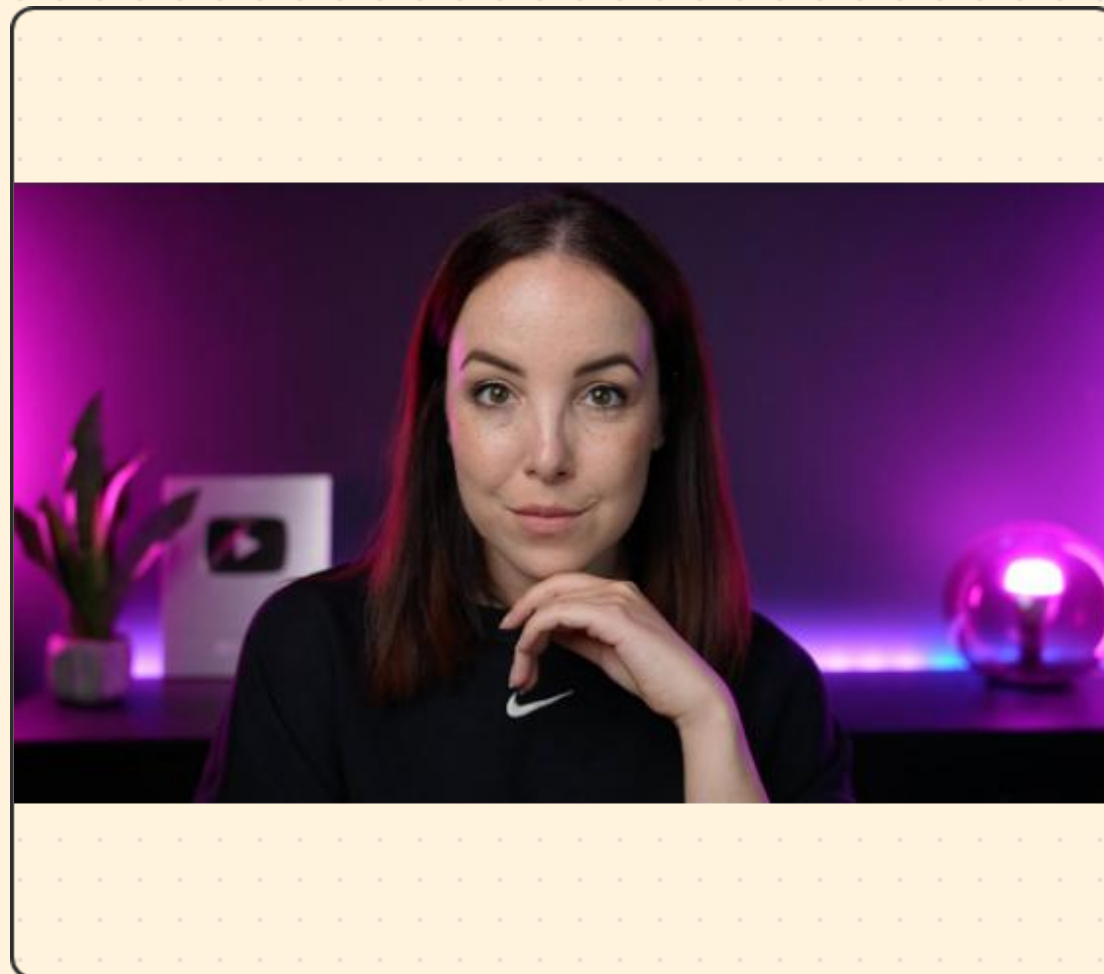
Paper: Mirowski et al., CHI 2023

Presented by: Patibandla Bharath Narasimha

Motivation: Why this research?

✒️ **LLMs in Creativity:** Artificial intelligence is increasingly used for creative writing assistance.

🧩 **The Coherence Gap:** Standard models struggle with long-range consistency (characters, plot arcs) over many pages.

🤝 **Writer Needs:** Professionals want tools that work *with* them, not just black-box generators.

What is Dramatron?

A hierarchical text-generation system that builds scripts layer by layer using **Prompt Chaining**.

1. Title

Generates a catchy title based on the logline.

2. Characters

Detailed descriptions and personality traits.

3. Plot Grid

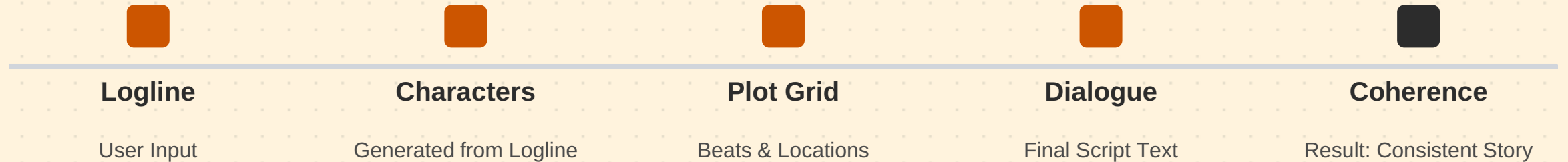Scene-by-scene outline with beat descriptions.

4. Dialogue

Script text generated for each specific scene.

Why Hierarchical Generation?

LLMs have limited context windows. Dramatron solves this by generating structure top-down.

Logline

User Input

Characters

Generated from Logline

Plot Grid

Beats & Locations

Dialogue

Final Script Text

Coherence

Result: Consistent Story

Interactive Co-Writing Workflow

Dramatron is not a "one-click" generator. It is an interactive
tool for exploration.

↻ **Request Alternatives:** Generate multiple
versions of characters or scenes.

✎ **Human-in-the-Loop:** Edit outputs at every
level before moving to the next.

↺ **Regenerate:** Rewrite sections using the user's
manual edits as context.

⬥ **Navigate Hierarchy:** Move backward to fix plot
points or forward to detail.

Study Design

15
Participants
Theatre & Film Professionals
(Writers, Directors, Producers)

2
Hours
Co-writing Session per Participant
+ Interviews & Surveys

Performance
"Plays By Bots"
Edmonton Fringe Festival

Qualitative Findings: Strengths

💡Inspiration

Helps overcome writer's block. Participants described it as putting "meat on the bones" that they could refine. It was highly valued for world-building and exploring alternative character traits.

🗂Structure

Writers praised the hierarchical structure, appreciating the ability to see the full narrative arc before diving into dialogue. It enabled the rapid production of draft text suitable for staging.

Quantitative Survey Results

Surprised by AI — 92%

Found it Helpful — 84%

Enjoyed System — 77%

Express Goals — 77%

Note: While engagement was high, many participants felt low ownership of the raw generated text.

Weaknesses Identified

LLM Limits

Lack of deep coherence, repetition loops, and weak character motivations.

Stereotypes

Gender bias, predictable clichés, and overly literal naming conventions.

Dependency

Heavy reliance on the initial logline; scenes sometimes contradict each other.

Ethical Considerations

© **Plagiarism & Copyright:** Concerns about prompt sets being based on existing works (e.g., Medea) and ownership of AI text.

⚖ **Bias & Representation:** Stereotypes encoded in the LLM training data can lead to harmful or cliché representations.

🌐 **Cultural Appropriation:** Risk of generating content that mimics cultures without understanding or respect.

Impact & Contribution

- Introduced **Dramatron**, a novel hierarchical system.

- Conducted a large **expert study** with professionals.

- Demonstrated **real-world value**; scripts were successfully staged.

- Provided insights into **co-creative tool design**.

Conclusion

Dramatron is a powerful tool for idea generation and structure.

While LLMs struggle with nuance, the hierarchical approach improves coherence.

The future is Co-Creative.