Drawing with LLMs

Kaggle's “Drawing with LLMs” contest proposes to generate images in SVG format from text descriptions of up to 200 characters. The outputs must be less than 10,000 bytes, with no CSS, external fonts or raster images. The main challenges include meeting these constraints, achieving high visual fidelity and controlling variability in the generative models.

GOAL

- Research question: How can we design a modular, efficient system that generates high-quality SVGs from text using open-source LLMs under strict constraintsa
- Expected product: A robust system that transforms short textual prompts into valid SVG code using optimized prompts and feedback-driven improvements.

PROPOSED SOLUTION

Our solution features a modular pipeline:

1. Input handler standardizes text descriptions.
2. Prompt engineer creates structured, constraint-aware prompts.
3. LLM generator (Gemma, DeepSeek) produces the SVG code.
4. Feedback Loop uses scoring metrics to refine future outputs.

CONCLUSION

We successfully designed a modular, cost-effective system capable of generating SVGs from text using LLMs. While full implementation is ongoing, initial testing shows the feasibility of our approach. Prompt engineering proved critical for quality output. The system answers the research question by balancing performance, fidelity, and constraint handling.

BIBLIOGRAPHY

DRAWING WITH LLMS. KAGGLE. HTTPS://WWW.KAGGLE.COM/COMPETITIONS/DRAWING-WITH-LLMS