SplunkGPT

Unlocking LLM Superpowers

Andrew Gomez

Jake Coyne

whoami

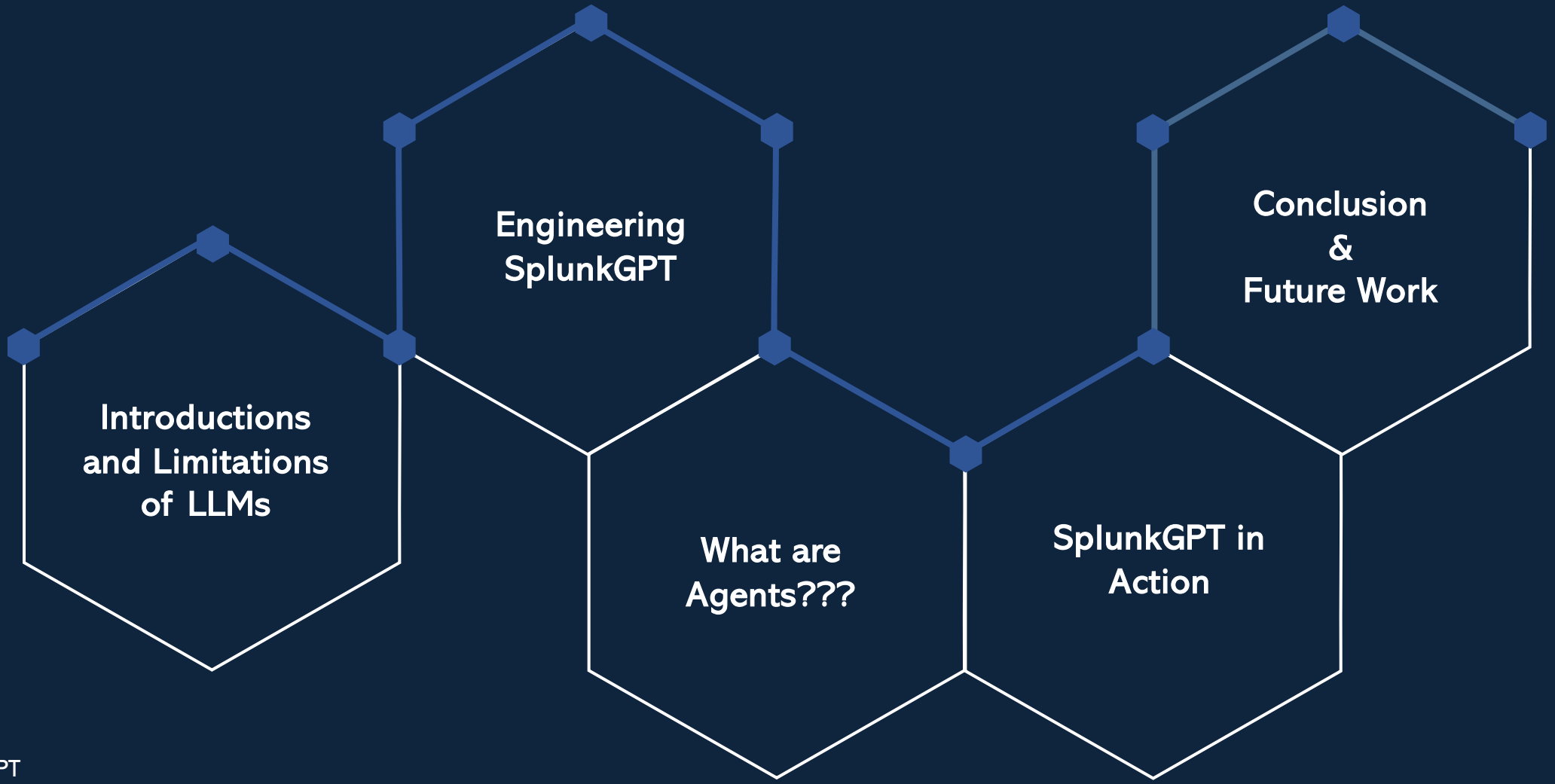
Andrew Gomez

Offensive Operator
Sixgen

Jake Coyne

Offensive Operator
Sixgen

Agenda


Introductions and Limitations of LLMs
Engineering SplunkGPT
What are Agents???
SplunkGPT in Action
Conclusion & Future Work

Introduction and Limitations of LLMs

What are LLMs?

- Type of AI to predict new content
- Examples: Llama, Flan, Bart, GPT, etc…

Token Limits

- GPT (3) text prompt 4096 characters limit
- 4096 tokens per conversation
- Varies per LLM and model

Computational Costs

- 4K Model | $0.0015 / 1K tokens | $0.002 / 1K tokens
- 1 Token ~= 4 characters
- Quadratic increase in cost
- Tuning is $$$
- Cost can also be energy if local LLM is used

Hallucinations

- Limited to a snapshot in time
- Black Box

A potential solution… Create an Agent!

Engineering SplunkGPT

Prompt Engineering Methods

- ZeroShot
- FewShot
- Chain-of-Thought
- Plan and Solve
- Reasoning and Acting

Memory Management

- Short Term Memory vs Long Term Memory

Vector Databases

- What is it?
- Why is it important?
- Algorithms

Tools for Interaction

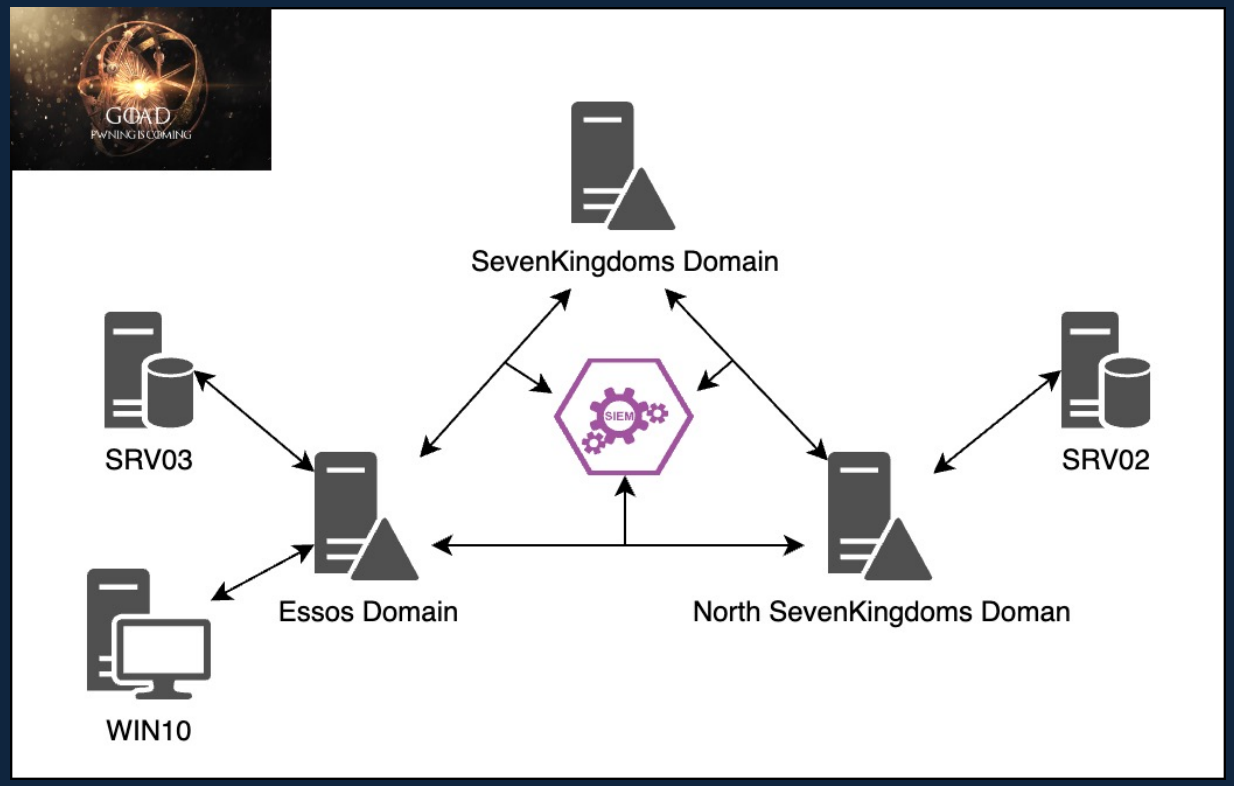
- LangChain Integration with…
  - Google Search
  - Hugging Face
  - Dall-E

Function Calls

- Tools as functions
- Challenges Faced

Chaining it together as an Agent

- What is an agent?
- How is LangChains tying it all together?


GOAD
PWNING IS COMING
SevenKingdoms Domain
SIEM
SRV03
SRV02
Essos Domain
North SevenKingdoms Doman
WIN10

DEMO TIME

References and Resources

References

- Greg Kamradt (Data Indy)
- BabyAGI
- AgentGPT
- SplunkAI
- OpenAI Documentation
- LangChain Documentation

Future Work

- Release Tool: https://github.com/andrew-gomez/SplunkGPT
- Refine Streamlit Chat Application
- Migration to a local LLM
- Reduce token size of prompts
- Continue testing and refining