



Integrating LLMs with Raku TRC-2023

Chatbook demo

- Direct LLM services access cells
 - ChatGPT
 - PaLM
 - DALL-E
- @Yoda chat cells
 - Creation
 - Continuation
 - Translation
- @MadHatter chat cell
 - Creation by meta cell
 - Continuation
- Meta cells
- Tracing diagrams
 - Chat cells
 - Chat meta cells

General remarks

- Why doing LLMs with Raku?
- The dynamic duo needs notebook solutions
 - And variety of goodies

Motivation

- Because it is trendy
- NLP Template Engine
 - Grammar vs LLM QAS
 - LLM access configurations switch
- Embeddings
 - Latent Semantic Analysis "for free"
 - Recommender systems

LLM prompts

- LLM::Prompts
- Taken from Wolfram Prompt Repository
- ~220 prompts
- Also in Python

LLM service access

- WWW::OpenAI
- WWW::PaLM
- They do more than text and image generation
- CLI

Literate programming application

- Generating documents from Markdown templates
 - How to quit Python in 12 steps?
- Generation of tests from descriptions
 - Plain text
 - Gherkin
 - Executable template
 - Woven
- Generating package documentation from tests
- Conversation between two characters
 - Larry vs Guido
 - Number guessing game
- TLDR documentation utilization
 - Notebook

LLM functions workflows

- Software engineering perspective
- Data retrieval and plotting
- Applications to Physics and Chemistry
- Entity Name Recognition
- Result types statistics
- Notebook

Comparison with Python and WL

- Notebook solutions
- Reprogramming to Python
 - Full of morals
- WL is much richer and mature
 - Except, currently is only for/with OpenAI