

Robust LLM pipelines

Introduction

- How?
 - LLM translation to functions
 - ML classification pipeline
 - CICon via LLM example
 - LLM utilization flowchart
- Why?
 - Discography
 - Geo-plotting
- What?
 - Classification
 - Regression
 - Data wrangling
 - Data science examples
- Who?
 - Pipelines

DSL for LLMs

- Coming up with the DSL design
 - The three phases
 - Configuration
 - ... and Evaluator
 - Invocation
 - Post-processing
 - Not trivial*
- UML for making an LLM function
- Examples
 - Themes table
 - Persona on the spot

Prompt engineering

- Using "NothingElse" and "CodeWriter"
 - Per attendee request
 - Multi-modal model
 - Chess-cat examples by Arben
 - No need to *much* talk about it after Michael Trott's presentation and classes

Examples-based

- Few-shot training
- Simple and useful example
- Comprehensive example(s)
 - Quantile Regression
 - Classification

Question Answering System (QAS)

- Production level or not?
 - NLP Template Engine
 - LLMTextualAnswer
 - Small Language Model*
 - FindTextualAnswer
 - No need to share secret code
 - Simpler output

Grammars-LLM combinations

- Motivation problem
 - Opinions for programming languages
- Grammar
 - EBNF
 - Parser generation
 - Parsing examples
 - LLM-based parser
- Combination
- Test run
 - Iterative refinement
- QRMon pipeline

Statistics of output data types

- Fully worked out example
 - Type and shape deduction
 - Motivation problem