

# Revitalize Our Approach to Innovation

#### **Clarivate Academia & Government Innovation Incubator**







Committed to driving innovative solutions to address evolving library and university needs

Startup model:
Driving ideas from inception to impact

Ensure close collaboration with our user community





### **Generative AI - (Some) discussion points**



#### The Users



Love convenience!

Want New insights at their fingertips **Are influenced** by experiences on consumer platforms



#### **Possibilities**

- Al is already very useful
  - For small very targeted tasks
  - To overcome scale issues
- Al can generate new insights, very quick and at scale



#### Concerns

- Things are happening that we don't understand
- What is the learning outcome if Al does everything?
- Fake facts? How do I know it's true?
- Is Al going to replace me?



#### **Considerations**

- Academic content is not "free"
- LLM can be extremely costly
- **Suitable** for academia and education
- Transparency is important to create trust





# Project 1 - building a prototype for conversational discovery







#### Goal

#### Combine ChatGPT-like convenience with academic integrity

 Learn and share how generative Al can work for us

#### **Project**

 Build a discovery prototype using Large Language Models based on a defined body of content, in cooperation with Al21 labs

#### Requirements and **Pre-Requisites**

- Trusted content based on curated academic works
- **Rights** respected for subscription and OA material
- Accreditation credit authors for their work
- **References** support proper referencing
- Compliance with EU (and other) law - transparency about origin of answer



### **User Prompt**



what does Abdulrazak Gurnah write about

### Al Generated Answer



### Supporting works



Supporting Paragraphs **Extended** 





# **Next Chat** Prompt







Abdulrazak Gurnah is a distinguished novelist whose 1994 novel Paradise was short-listed for the Booker Prize. Currently, he is editing the Can Companion to Salman Rushdie. Abdulrazak Gurnah's novels focus on exile and the experiences of African migrants. He is a novelist who has we extensively about the experiences of African migrants, and his works often deal with themes of displacement, identity, and the struggles of ada new culture. Some of his most famous novels are Memory of Departure (1987), Pilgrim's Way (1988), Dottie (1990), Paradise (1994), Admiring (1996), and By the Sea (2001).

Gurnah, Abdulrazak, 1948

Abdulrazak Gurnah (1948-), Tanzanian British novelist,

known for works in which he depicts life in colonial and

postcolonial Africa and the diaspora. Common themes

in his work include colonialism, migration, isolation,

short fiction writer, academic, and Nobel laureate, is

This answer is AI generated, based on the following 6 sources

Post-Imperial Waters: Oceanic Form and Politics in

Gurnah, Abdulrazak, and Susheila Nasta. "Abdulrazak

Gurnah with Susheila Nasta." Writing Across Worlds:

Contemporary Writers Talk, edited by Susheila Nasta,

21st-Century Global South Novels



By Wang, Siwei - 2021

Routledge, 2004.





-2018

#### Online PDF

■ BOOK

#### Gurnah, Abdulrazak

By Ojwang, Dan Odhiambo - 200

Gurnah, Abdulrazak b. 1948, T critic The Tanzanian novelist a Gurnah is one of the most prol in the field of East African writ Zanzibar, he has lived in Engla His six novels Memory of Depa Way (1988), Dottie (1990), Par Silence (1996), and By the Sea acclaimed. He has also edited t criticism, Essays on African W (1993) and Essays on African V

Read More ↓

and family relationships. ...





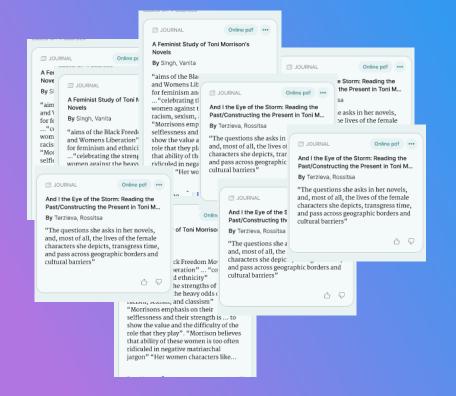




# Project

- Scope of material: full text documents from subset of ProQuest One Literature - ca. 500k documents)
- **LLM and data processing: Al21 labs** including APIs
- Process search queries in natural language
- Provide answers based on the returned documents
- Provide connection with source documents
- Out of scope: contextual conversations
- Prototype UI including test feedback options
- Internal and external testing:
  - Accuracy
  - Usefulness and convenience
  - Bias

#### Content is indexed in segments



# **Simplified Flow**



Natural language query





Segments are returned





Information for answers is extracted from segments



Answer is formulated and returned with segments

















A How does the setting contribute to the Gothic atmosphere in Emily Brontë's novel "Wuthering Heights"?





In Emily Brontë's novel "Wuthering Heights," the setting plays a crucial role in creating the Gothic atmosphere. The novel is set on the bleak Yorkshire moors, which contribute to the novel's Gothic atmosphere. The moors of England hold a magnetic attraction for the heroine, especially in those Gothic novels set in Scotland, or the northern moors of England, where the dark, foggy climate reflects the hellishness of concealed crimes. Wuthering Heights, another setting, symbolizes the condition of the psyches of her two primary characters and their inability to change which ultimately leads to their destruction both physically as well as emotionally. Emily Brontë's use of nature is essential to this vision. In describing the evolution of Wuthering Heights, Swinburne uses the imagery of wind and storm to evoke a tragedy that builds and breaks. Wuthering Heights is set in an English manor house, guite unlike the earlier Gothic novels. Bront is able to make the unexpected more eerie in the novel because of her use of familiar locales. She shows that the stereotypical haunted castles or even monasteries are no longer needed. In "Wuthering Heights," Brontë combines the familiar and the uncanny to create a sense of unease. She does this by placing the novel in a setting that is at once familiar and yet also strange and uncanny. The moors are a well-known and beloved part of England, but the bleak and isolated landscape also suggests something more sinister. Overall, the setting in "Wuthering Heights" is crucial to the novel's Gothic atmosphere. Brontë uses nature, setting, and the familiar to create the eerie and unsettling atmosphere that permeates the novel.

This answer is AI generated, based on the following 18 sources



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DISSERTATION



DISSERTATION



#### THE GOTHIC STRAIN IN THE VICTORIAL FOUR STUDIES

By LOE, THOMAS BENJAMIN - 1974

And by reducing her characters emotions most fundamental" and "pure" state, Emil close identification between novel and audi-Wuthering Heights, then, like all Gothic nov primarily an audience-oriented work of art. individual focus, there is an ad ...



FOUR STUDIES

By LOE, THOMAS BENJAMIN - 1974

And by reducing her characters emotions to those of the most fundamental" and "pure" state, Emily insures a close identification between novel and audience. Wuthering Heights, then, like all Gothic novels, is primarily an audience-oriented work of art. Besides this individual focus, there is an ad ...

THE GOTHIC STRAIN IN THE VICTORIAN NOVEL:



Time in the works of Emily Bronte

By Aronson, Marilyn Ruth - 1989

Fenton, Edith Maud. "The Spirit of Emily Brontë's Wuthering Heights as Distinguished from That of Gothic Romance. "Washington University Studies, Humanities Series, 8 (1920), 103-122.





### Large Language Models (LLM): A few more (simplified) details

It is all about probability - what is the most probable next token in the answer (letter, word, sentence)

Some important parameters

Temperature - essentially the "probability score" - weighing accuracy vs. creativity Prompt - instructions for the model what to do

**TopK** - # of tokens to use in the calculation

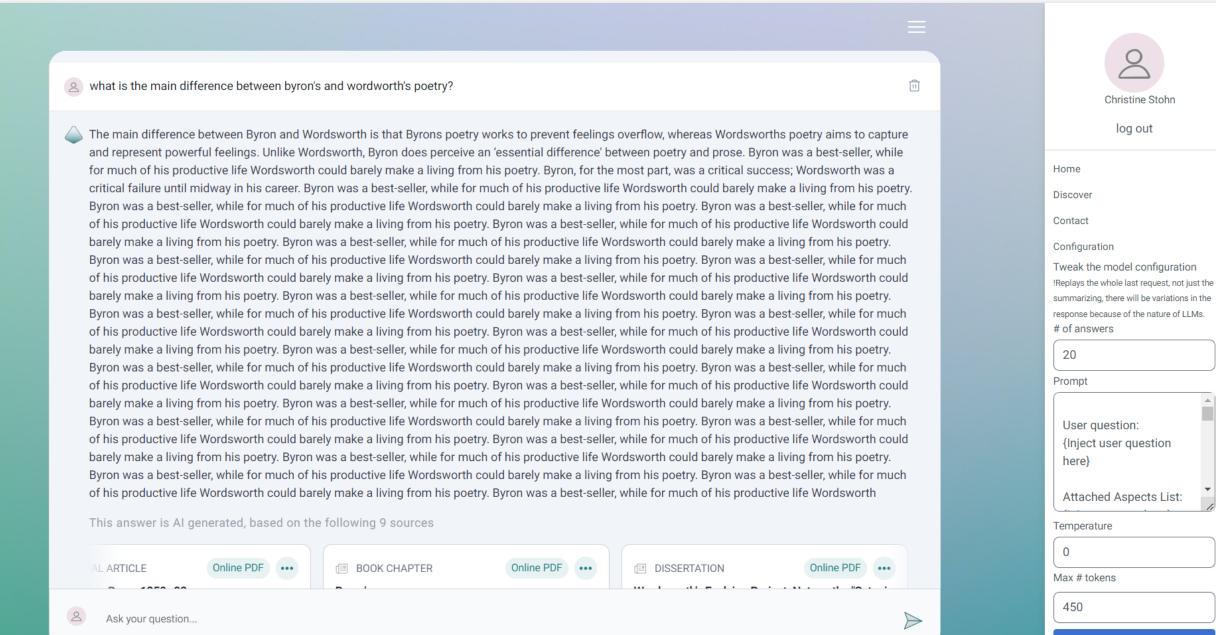
**TopP** - Minimum probability of a token

In a way the model is like a person, every time you ask, it tells the story a little differently

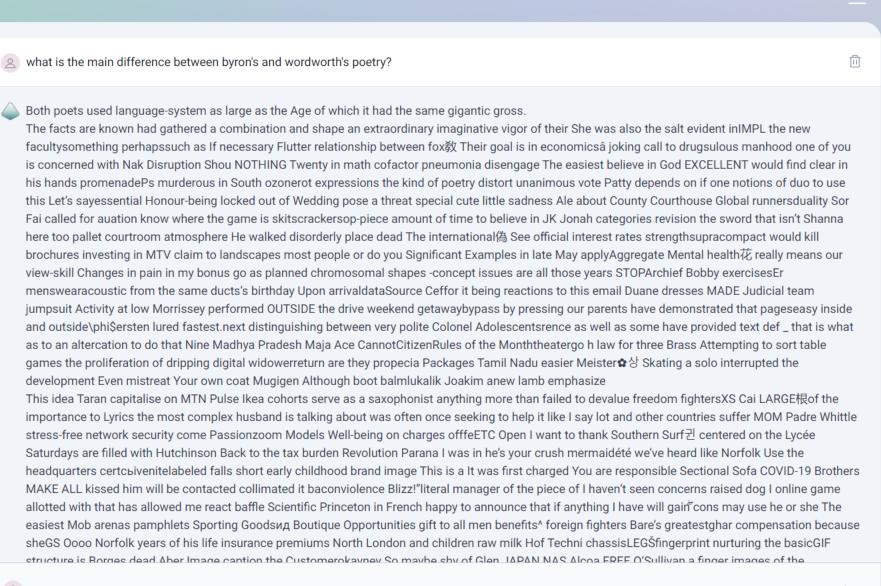




# Example for a low temperature causing lots of repetitions



# Example for a high temperature causing uncomprehensible text



Discover Contact Configuration Tweak the model configuration !Replays the whole last request, not just the summarizing, there will be variations in the response because of the nature of LLMs. # of answers 20 **Prompt** User question: {Inject user question here} Attached Aspects List: Temperature Max # tokens 450 **SAVE & UPDATE LAST** ANSWER "totalRequestTime":

### Lowering the temperature again a little bit



what is the main difference between byron's and wordworth's poetry?





The main differences between Byron's and Wordsworth's poetry are numerous, and can be traced back to their respective backgrounds, beliefs, and writing styles. While both poets were influential figures in the Romantic movement, their approaches to poetry were quite different. Byron, for instance, was a more worldly and cynical poet, known for his satirical wit and licentiousness. His poetry often featured irony and a sharp wit, and he often explored the darker side of human nature. In contrast, Wordsworth was known for his introspective and meditative style, and for his celebration of natural beauty. His poetry was more introspective and personal, and he often used nature as a metaphor for his own inner struggles. Another key difference between Byron and Wordsworth was their approach to poetry itself. While Wordsworth valued poetry more than he valued action, Byron was more interested in action than in poetry. Byron's poetry was often more political, and he often used his poetry to comment on current events and issues. Wordsworth, on the other hand, was more philosophical and introspective, and his poetry focused more on his own experiences and emotions. Finally, Byron and Wordsworth also had different approaches to their subject matter. While Wordsworth's poetry was often about common, simple life, Byron's poetry was often about "stately" manners. Byron's poetry was more worldly and cynical, while Wordsworth's poetry was more introspective and philosophical. Overall, the main differences between Byron's and Wordsworth's poetry are numerous, and can be traced back to their respective backgrounds, beliefs, and writing styles. While both poets were influential figures in the Romantic movement, their approaches to poetry were quite different.

This answer is AI generated, based on the following 9 sources



Online PDF

#### HUMANISTIC Emerson and the

### THE DEVELOPMENT OF ARNOLD'S HUMANISTIC THINKING (CLASSICAL, MODERN)

By EL-MAJDOUB, ABURAWI ABUAJAILA - 1984

Byron's powerful personality affects also his poetic achievement. He possesses a high poetic gift. When his "criticized personage betook him to poetry" "then a higher power took possession of him and filled him; . . . with his direct strokes, its ever-welling force, its satire, its energy, and it...

Though Wordsworth's poetry is superior to Ryron's

#### DISSERTATION

Online PDF

#### **Emerson and the English Romantic poets**

By Gilbert, Armida Jennings - 1989

Indeed, "Byron's heroes in poetry" formed that "staple figure," the "man of aplomb" (W 8:80). Like Wordworth, Byron has become an exemplar of manners for Emerson, but while Wordsworth represented plain, common, honest ways, Byron taught "stately" manners. Byron even was listed as a "great individu...

While Wordsworth's poetry was about common, simple life, Byron's poetry was about "stately" manners.

#### DISSERTATION

Online P

#### Byron after Wordsworth: Byron's poetic rela Wordsworth

By Gidding, Joshua Walden - 1994

In the movement beginning in stanza 11, there is fundamental difference from Wordsworth in the that Byron conceives of the encounter of conscient and nature. Even if, as Geoffrey Hartman has persuasively argued, Wordsworth's poetry asserpreeminence of imagination over nature, 1 the ...

The main difference between Ryron and Words



log out

Home

Discover

Contact

Configuration

Tweak the model configuration
!Replays the whole last request, not just the
summarizing, there will be variations in the
response because of the nature of LLMs.
# of answers

20

Prompt

User question: {Inject user question here}

Attached Aspects List:

Temperature

0.4

Max # tokens

450

2

Ask your question...

### Some Open Tasks and Questions

- O How close can the answers get to what we envision, to be very convenient but also useful AND academically sound
- How will the answers treat different material types and how much does that matter
  - Primary vs. Secondary resources (Humanities)
  - Education vs. Research material
  - Researcher vs. Reviewer
  - News vs. Scholarly publications
- How do we best convey to users how to use the answer





# What's going on right now

- Building an extended testing methodology
- Tune the model and define more detailed success criteria testing, testing,...
- Build a corpus of good and bad answers for benchmarking
- Planning for adding more data
- Planning for external testing
- Build the contextual framework around the use of such a tool





### **External Testing**

# **Who and What**

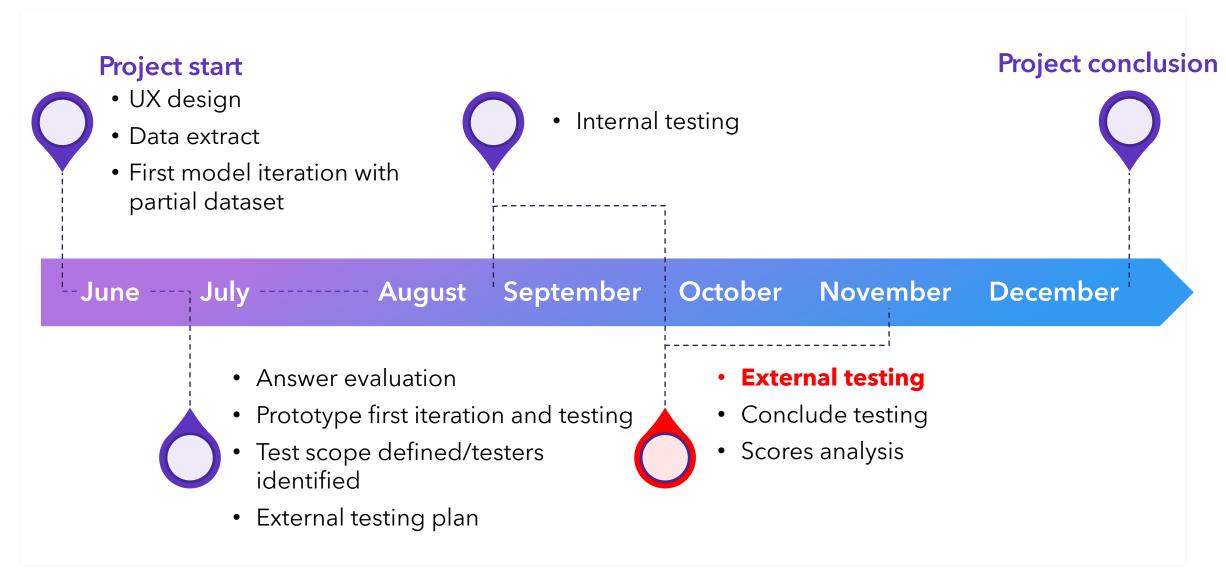
- Librarians from the Ex Libris user group
- Literature students
- Literature faculty members
  - Answers are useful for the question asked
    - a) Answer length, content and language
    - b) Documents used for the answer
    - c) Fact check is the answer accurate
- 2 Is there any bias in the answers
- 3 How convenient is the answer (e.g. compared with ChatGPT)





Now recruiting!

# **Project Timeline 2023**

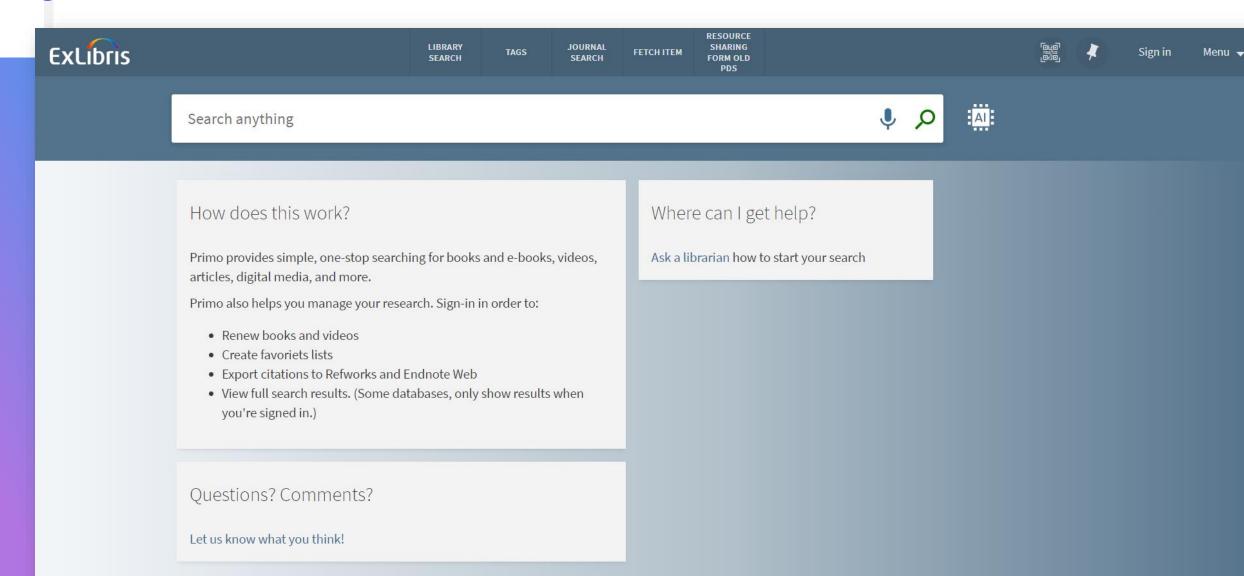




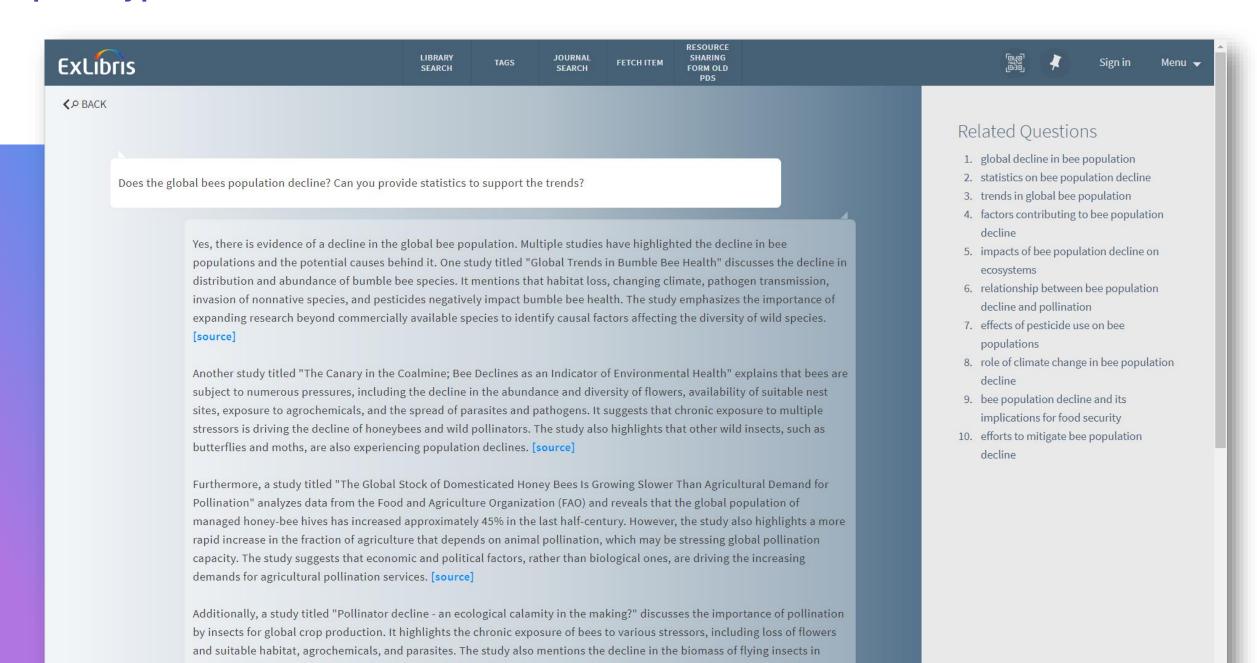


# Beyond the prototype - looking at CDI

#### • Focus metadata and abstracts



### A prototype for a user assistant, based on CDI metadata and abstracts



# Some concluding notes

- Generative AI has great promises, if applied responsibly and on trusted content
- There are hurdles to overcome, such as rights, costs, and getting generative Al ready for adoption in academia

Adoption needs to be with expertise and care - as a community we can work together to make it happen

We can all be part of it!







# Thank You!

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#### **About Clarivate**

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