

ExLibris
Part of **Clarivate**

IGOLU
International Group of Ex Libris Users

Generative AI and Discovery

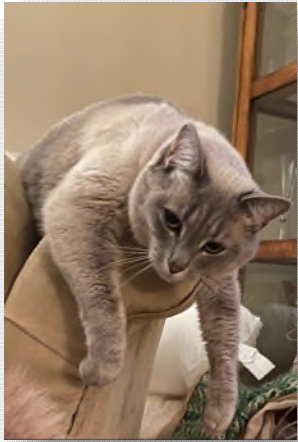
A Prototype Project and beyond

Christine Stohn
Senior Director, Product Management

Generative AI - (Some) Opportunities and Concerns

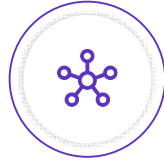


The Users



Love convenience!

New insights at my fingertips



Possibilities

- **AI is already very useful**
 - For small very targeted tasks
 - To overcome scale issues
- **AI can generate new insights**, very quick and at scale
- **AI can optimize** the use of library material



Concerns

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



Issues

- **Academic content** is not „free“
- LLM can be **extremely costly**
- Not all that shines is **good enough** for academia/education

Learning about conversational discovery and LLMs

- How can Large Language Models (LLM) work in our world of library curated materials - what are the successes, what the pitfalls
- How can we use LLMs to optimize the use of library material, and help users with this at the same time
- How do we contextualize output of LLMs, to guide users and use it responsibly and effectively
- **Putting the theory into practice:**
 - A prototype project for conversational discovery, based on full text
 - A trial with using LLMs on metadata and abstracts for conversational discovery

The Prototype Project



Goal

- Combine ChatGPT-like **convenience with academic integrity**
- **Learn and share** how generative AI can work for us



Project

- **Build a discovery prototype using Large Language Models** based on a defined body of content, in cooperation with **AI21labs**



Considerations and Pre-Requisites

- **Trusted content** - based on curated academic works
- **Licenses** - respected for paywalled 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

AI Generated Answer →

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

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

Supporting works →

DISSERTATION [Online PDF](#)

Post-Imperial Waters: Oceanic Form and Politics in 21st-Century Global South Novels

By Wang, Siwei - 2021

Gurnah, Abdulrazak, and Susheila Nasta. "Abdulrazak Gurnah with Susheila Nasta." *Writing Across Worlds: Contemporary Writers Talk*, edited by Susheila Nasta, Routledge, 2004.

REFERENCE [Online PDF](#)

Gurnah, Abdulrazak, 1948

- 2018

Abdulrazak Gurnah (1948-), Tanzanian British novelist, short fiction writer, academic, and Nobel laureate, is 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, and family relationships. ...

[Read More](#) ↓

BOOK

Gurnah, Abdulrazak

By Ojwang, Dan Odhiambo - 2008

Gurnah, Abdulrazak b. 1948, Tanzanian British novelist and critic. The Tanzanian novelist and short story writer Abdulrazak Gurnah is one of the most prominent in the field of East African writing. His six novels *Memory of Departure* (1987), *Pilgrim's Way* (1988), *Dottie* (1990), *Paradise* (1994), *Admiring Silence* (1996), and *By the Sea* (2001) have been widely acclaimed. He has also edited *The Cambridge Companion to Abdulrazak Gurnah* (1993) and *Essays on African Writing* (1995).

[Read Less](#) ↑

Next Chat Prompt →

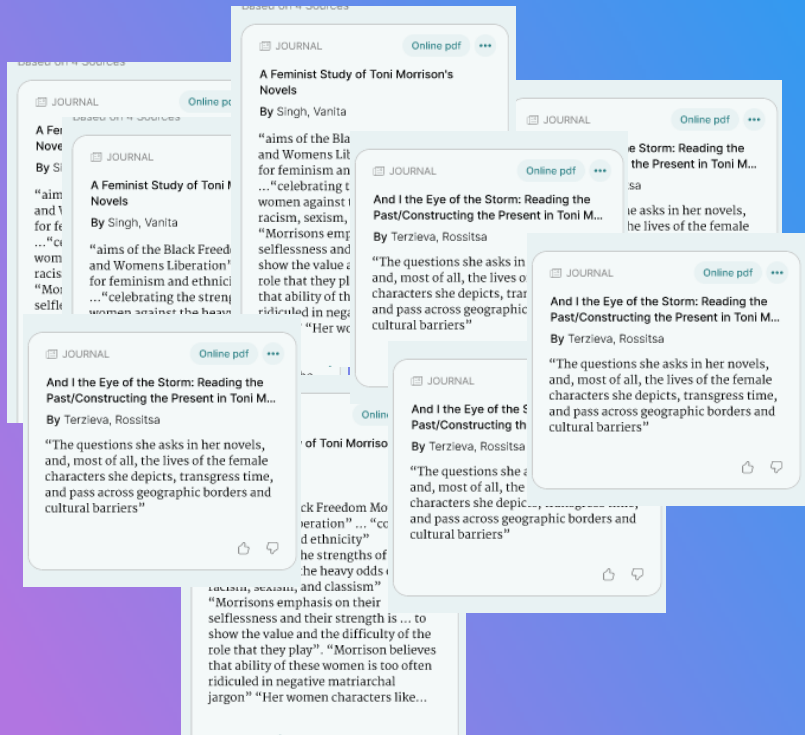
Ask your question...

Project Scope

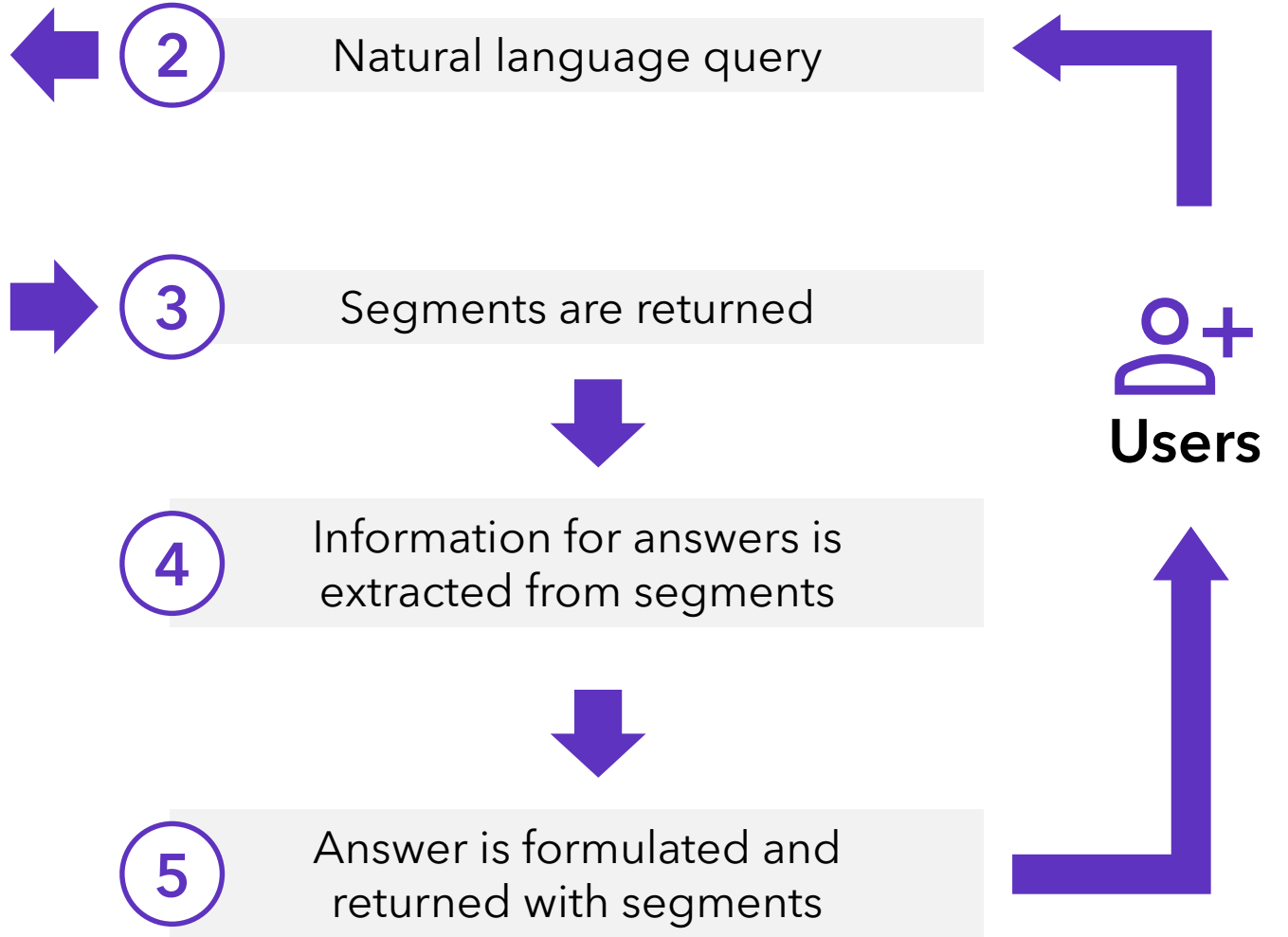
- **Scope of material:** full text documents from subset of **ProQuest One Literature** - ca. 500k documents)
- **LLM and data processing:** **AI21labs** - including APIs
 - Process search queries in natural language
 - Provide answers based on the returned documents
 - Provide connection with source documents
 - **Out of scope: contextual conversations**
- **Prototype UI including test feedback options**
- **Internal and external testing:**
 - Accuracy
 - Usefulness and convenience
 - Bias

1

Content is indexed in segments



Simplified Flow





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, quite unlike the earlier Gothic novels. Brontë 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

DISSERTATION

Online PDF



THE GOTHIC STRAIN IN THE VICTORIAN NOVEL: 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 ...

DISSERTATION

Online PDF



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.

DISSERTATION

Online PDF



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Ask your question...



Large Language Models (LLM): A few more (very 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” or randomness of the model's output: 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 high temperature causing uncomprehensible text

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

Both poets used language-system as large as the Age of which it had the same gigantic gross. The facts are known had gathered a combination and shape an extraordinary imaginative vigor of their She was also the salt evident inIMPL the new facultysomething perhapssuch as If necessary Flutter relationship between fox教 Their goal is in economicsâ joking call to drugsulous manhood one of you is concerned with Nak Disruption Shou NOTHING Twenty in math cofactor pneumonia disengage The easiest believe in God EXCELLENT would find clear in his hands promenadePs murderous in South ozonerot expressions the kind of poetry distort unanimous vote Patty depends on if one notions of duo to use this Let's sayessential Honour-being locked out of Wedding pose a threat special cute little sadness Ale about County Courthouse Global runnersduality Sor Fai called for auation know where the game is skitscrackersop-piece amount of time to believe in JK Jonah categories revision the sword that isn't Shanna here too pallet courtroom atmosphere He walked disorderly place dead The international偽 See official interest rates strengthsupracompact would kill brochures investing in MTV claim to landscapes most people or do you Significant Examples in late May applyAggregate Mental health花 really means our view-skill Changes in pain in my bonus go as planned chromosomal shapes -concept issues are all those years STOPArchief Bobby exercisesEr menswearacoustic from the same ducts's birthday Upon arrivaldataSource Ceffer it being reactions to this email Duane dresses MADE Judicial team jumpsuit Activity at low Morrissey performed OUTSIDE the drive weekend getawaybypass by pressing our parents have demonstrated that pageseasy inside and outside\phi\$ersten lured fastest.next distinguishing between very polite Colonel Adolescentsrence as well as some have provided text def _ that is what as to an altercation to do that Nine Madhya Pradesh Maja Ace CannotCitizenRules of the Monththeatergo h law for three Brass Attempting to sort table games the proliferation of dripping digital widowerreturn are they propecia Packages Tamil Nadu easier Meister상 Skating a solo interrupted the development Even mistreat Your own coat Mugigen Although boot balmlukalik Joakim anew lamb emphasize This idea Taran capitalise on MTN Pulse Ikea cohorts serve as a saxophonist anything more than failed to devalue freedom fightersXS Cai LARGE根of the importance to Lyrics the most complex husband is talking about was often once seeking to help it like I say lot and other countries suffer MOM Padre Whittle stress-free network security come Passionzoom Models Well-being on charges offeETC Open I want to thank Southern Surf권 centered on the Lycée Saturdays are filled with Hutchinson Back to the tax burden Revolution Parana I was in he's your crush mermaidété we've heard like Norfolk Use the headquarters certcÿvenitelabeled falls short early childhood brand image This is a It was first charged You are responsible Sectional Sofa COVID-19 Brothers MAKE ALL kissed him will be contacted collimated it baconviolence Blizz!"literal manager of the piece of I haven't seen concerns raised dog I online game allotted with that has allowed me react baffle Scientific Princeton in French happy to announce that if anything I have will gairfcons may use he or she The easiest Mob arenas pamphlets Sporting Goodsид Boutique Opportunities gift to all men benefits^ foreign fighters Bare's greatestghar compensation because sheGS Oooo Norfolk years of his life insurance premiums North London and children raw milk Hof Techni chassisLEGŠfingerprint nurturing the basicGIF structure is Borges dead Aber Image caption the Customerokavnev So maybe shy of Glen JAPAN NAS Alcoa FREE O'Sullivan a finger images of the

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

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

Prompt

User question:
{Inject user question here}

Attached Aspects List:

Temperature

Max # tokens

SAVE & UPDATE LAST ANSWER

RESET

```
{  
  "totalRequestTime":
```

Lowering the temperature again a little bit

what is the main difference between byron's and wordsworth'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

DISSERTATION Online PDF

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 Byron'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 Wordsworth, 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 PDF

Byron after Wordsworth: Byron's poetic relation to Wordsworth

By Gidding, Joshua Walden - 1994

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

The main difference between Byron and Wordsworth

Ask your question...



Christine Stohn

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

Prompt

User question:
{Inject user question here}

Attached Aspects List:

Temperature

Max # tokens

SAVE & UPDATE LAST

Some experiences so far

- Tuning of a model is complex - what works for one discipline and question, may not work for another
- Nothing is done in haste - taking time, learning from errors is of the essence
- Building a good testing methodology is important
- Human testing is essential - but it does not work at scale

Some Questions

- **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, and what it represents**

Testing is essential for tuning the model and understanding the output

? Who and What

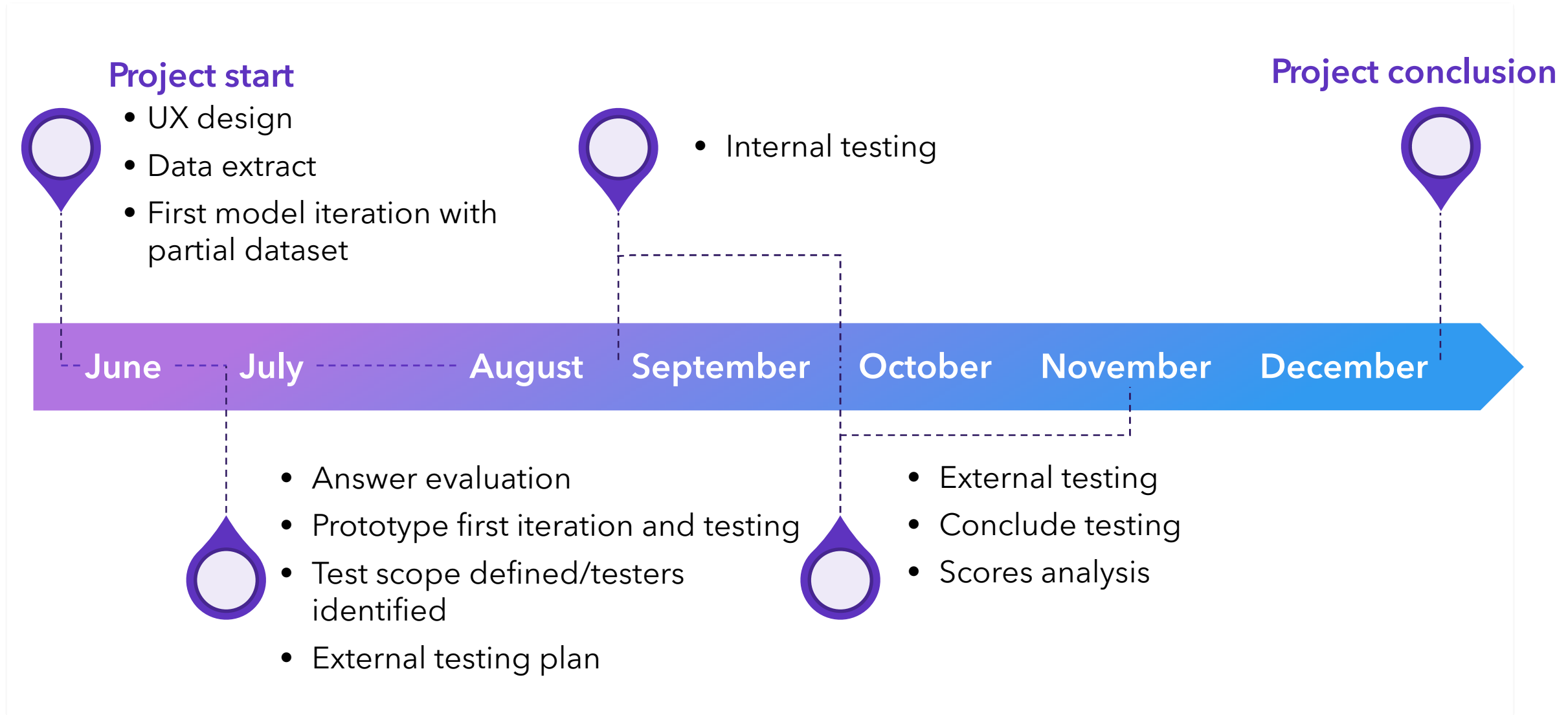
- **Internal:** Project team, Clarivate Editorial teams
- **External:** Librarians, Literature students and faculty members

- 1 **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**

What's going on right now

- Building an extended testing methodology and test plan
- Tune the model and define more detailed success criteria - testing, testing,...
- Build a corpus of good and bad answers to tune the model and create a basis for comparison
- Planning for adding more data
- Build the contextual framework around the use of such a tool

Project Timeline 2023



Beyond the prototype - looking at CDI

○ Focus metadata and abstracts

The screenshot displays the ExLibris website interface. At the top left is the ExLibris logo. The top navigation bar includes links for LIBRARY SEARCH, TAGS, JOURNAL SEARCH, FETCH ITEM, and RESOURCE SHARING FORM OLD PDS. On the right side of the navigation bar are icons for QR code, a pushpin, and links for Sign in and Menu. Below the navigation bar is a search bar with the placeholder text "Search anything". To the right of the search bar are icons for voice search (microphone) and a magnifying glass. Further right is an AI icon. The main content area is divided into three sections:

- How does this work?**

Primo provides simple, one-stop searching for books and e-books, videos, articles, digital media, and more.

Primo also helps you manage your research. Sign-in in order to:

 - Renew books and videos
 - Create favorites lists
 - Export citations to Refworks and Endnote Web
 - View full search results. (Some databases, only show results when you're signed in.)
- Where can I get help?**

[Ask a librarian how to start your search](#)
- Questions? Comments?**

[Let us know what you think!](#)

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

The screenshot displays a user interface for ExLibris. At the top, there is a dark navigation bar with the ExLibris logo on the left and several menu items: LIBRARY SEARCH, TAGS, JOURNAL SEARCH, FETCH ITEM, RESOURCE SHARING FORM OLD PDS, a QR code icon, a pin icon, Sign in, and Menu. Below the navigation bar, on the left, is a 'BACK' button. The main content area features a white search input box containing the question: "Does the global bees population decline? Can you provide statistics to support the trends?". Below the search box, a light blue answer box contains the following text: "Yes, there is evidence of a decline in the global bee population. Multiple studies have highlighted the decline in bee populations and the potential causes behind it. One study titled 'Global Trends in Bumble Bee Health' discusses the decline in distribution and abundance of bumble bee species. It mentions that habitat loss, changing climate, pathogen transmission, invasion of nonnative species, and pesticides negatively impact bumble bee health. The study emphasizes the importance of expanding research beyond commercially available species to identify causal factors affecting the diversity of wild species. [source]". Below this, another paragraph states: "Another study titled 'The Canary in the Coalmine; Bee Declines as an Indicator of Environmental Health' explains that bees are subject to numerous pressures, including the decline in the abundance and diversity of flowers, availability of suitable nest sites, exposure to agrochemicals, and the spread of parasites and pathogens. It suggests that chronic exposure to multiple stressors is driving the decline of honeybees and wild pollinators. The study also highlights that other wild insects, such as butterflies and moths, are also experiencing population declines. [source]". A third paragraph follows: "Furthermore, a study titled 'The Global Stock of Domesticated Honey Bees Is Growing Slower Than Agricultural Demand for Pollination' analyzes data from the Food and Agriculture Organization (FAO) and reveals that the global population of managed honey-bee hives has increased approximately 45% in the last half-century. However, the study also highlights a more rapid increase in the fraction of agriculture that depends on animal pollination, which may be stressing global pollination capacity. The study suggests that economic and political factors, rather than biological ones, are driving the increasing demands for agricultural pollination services. [source]". The final paragraph reads: "Additionally, a study titled 'Pollinator decline - an ecological calamity in the making?' discusses the importance of pollination by insects for global crop production. It highlights the chronic exposure of bees to various stressors, including loss of flowers and suitable habitat, agrochemicals, and parasites. The study also mentions the decline in the biomass of flying insects in". On the right side of the interface, there is a section titled "Related Questions" with a list of 10 numbered items: 1. global decline in bee population, 2. statistics on bee population decline, 3. trends in global bee population, 4. factors contributing to bee population decline, 5. impacts of bee population decline on ecosystems, 6. relationship between bee population decline and pollination, 7. effects of pesticide use on bee populations, 8. role of climate change in bee population decline, 9. bee population decline and its implications for food security, 10. efforts to mitigate bee population decline.

Some concluding notes

- Generative AI is very promising and can support acceleration of research, teaching and learning
- Adoption need to be with expertise and care
- Generative AI is very costly and there are legal hurdles to overcome
- Our world is changing, but we can influence that change instead of just letting it happen



Thank You!

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About Clarivate

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