

LangChain

1. Semantic Search – Basic method for searching relevant documents. Similarity search from the Vector Store (Vector DB) – Semantic Lookup based on the query
2. Maximum Marginal Relevance (MMR) – Filters duplicate in the retrieved documents
3. LLM aided retrieval using self-query (LLM is used to convert the user question into a query)
4. Compression – Increase the number of results we can put in the context by shrinking the responses to only the relevant information.
5. TextSplitter – SVM Retriever, TFIDF Retriever
6. Map Reduce, Refine, Map Rerank

Temperature = 0 for more reliable answer

The screenshot displays the TruLens web interface, specifically the 'App Leaderboard' section. The browser's address bar shows the URL 'pretty-walls-thank.local.it'. The left sidebar contains navigation links for 'Leaderboard', 'Apps', and 'Evaluations'. The main content area features the title 'App Leaderboard' and a subtitle 'Average feedback values displayed in the range from 0 (worst) to 1 (best)'. Below this, a table lists metrics for 'App_1'. The metrics include Records (51), Average Latency (2.39), Total Cost (USD) (\$0), Total Tokens (0), Groundedness (0.41, marked as low), Answer Relevance (0.94, marked as high), and Context Relevance (0.57, marked as low). A 'Select App' button is located to the right of the table. The Windows taskbar at the bottom shows the time as 19:48 on 18-07-2024.

Records	Average Latency	Total Cost (USD)	Total Tokens	Groundedness	Answer Relevance	Context Relevance	Action
51	2.39	\$0	0	0.41 low	0.94 high	0.57 low	Select App

Feedback results

Feedback functions (click on a pill to learn more)

✓ Answer Relevance 1.0000

□ Context Relevance 0.5500

□ Groundedness 0.0000

Trace details

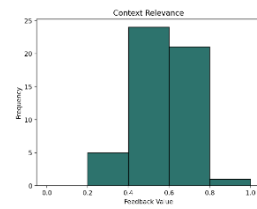
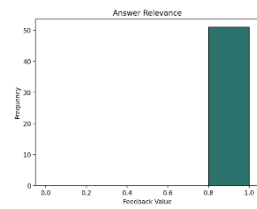
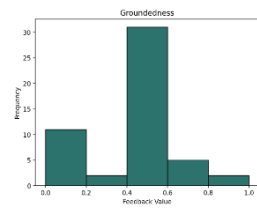
Tree	Timeline	Details	Span JSON	Metadata	Record JSON	App JSON
App_1 Select.Record ⌚ 3 s		Latency 3 s				
RetrieverQueryEngine.query Select.Record.app.query ⌚ 3 s		Trace I/O				
RetrieverQueryEngine.retrieve Select.Record.app.retrieve ⌚ 863 ms		Input Select.RecordInput Is there any CGPA criteria for pursuing Semester Internship?				
VectorIndexRetriever.retrieve Select.Record.app._retriever.retrieve		Output Select.RecordOutput There is no specific mention of a CGPA criteria for pursuing a Semester Internship in the provided context information.				

Filter Applications

App_1 x

App_1

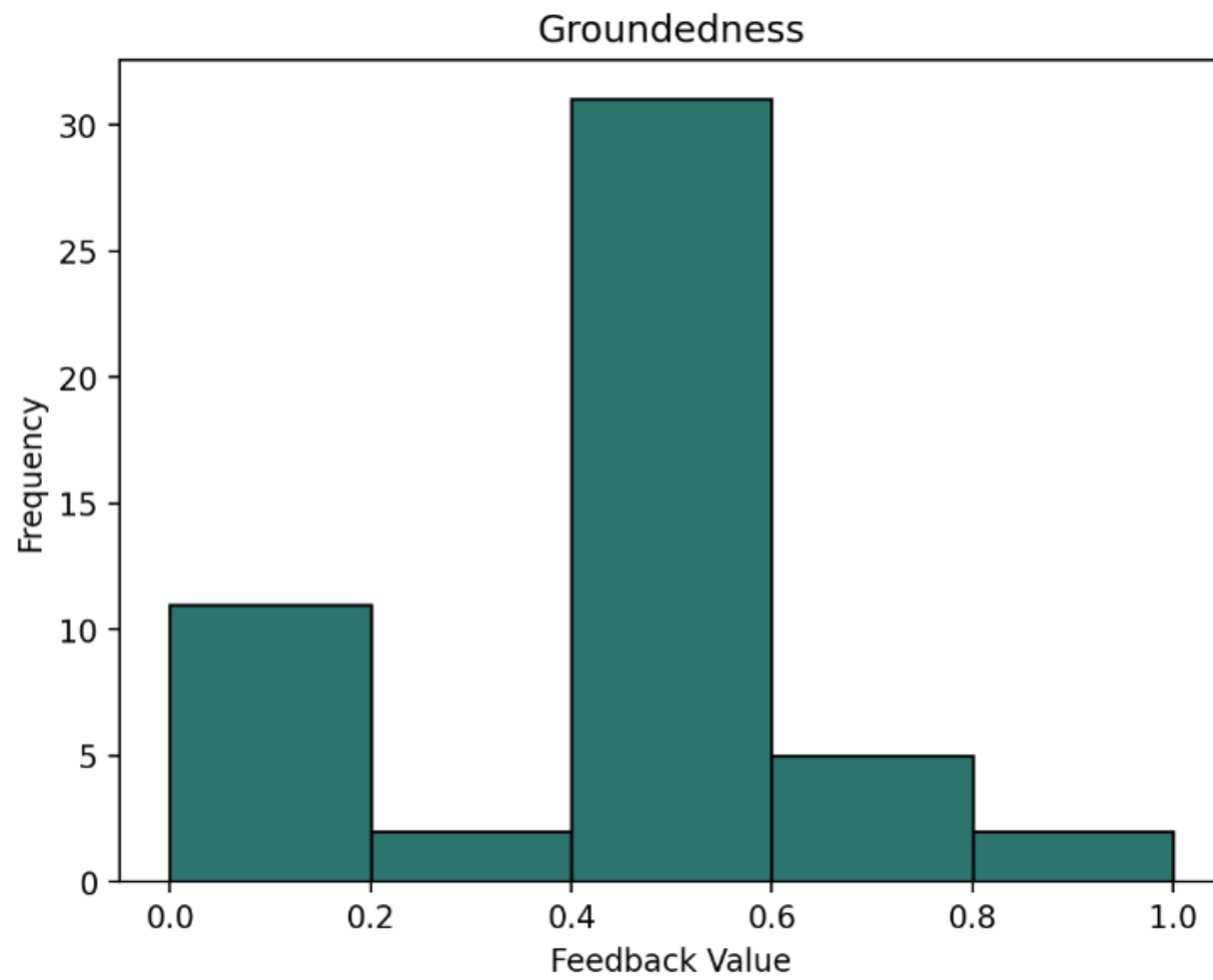
Records Feedback Functions

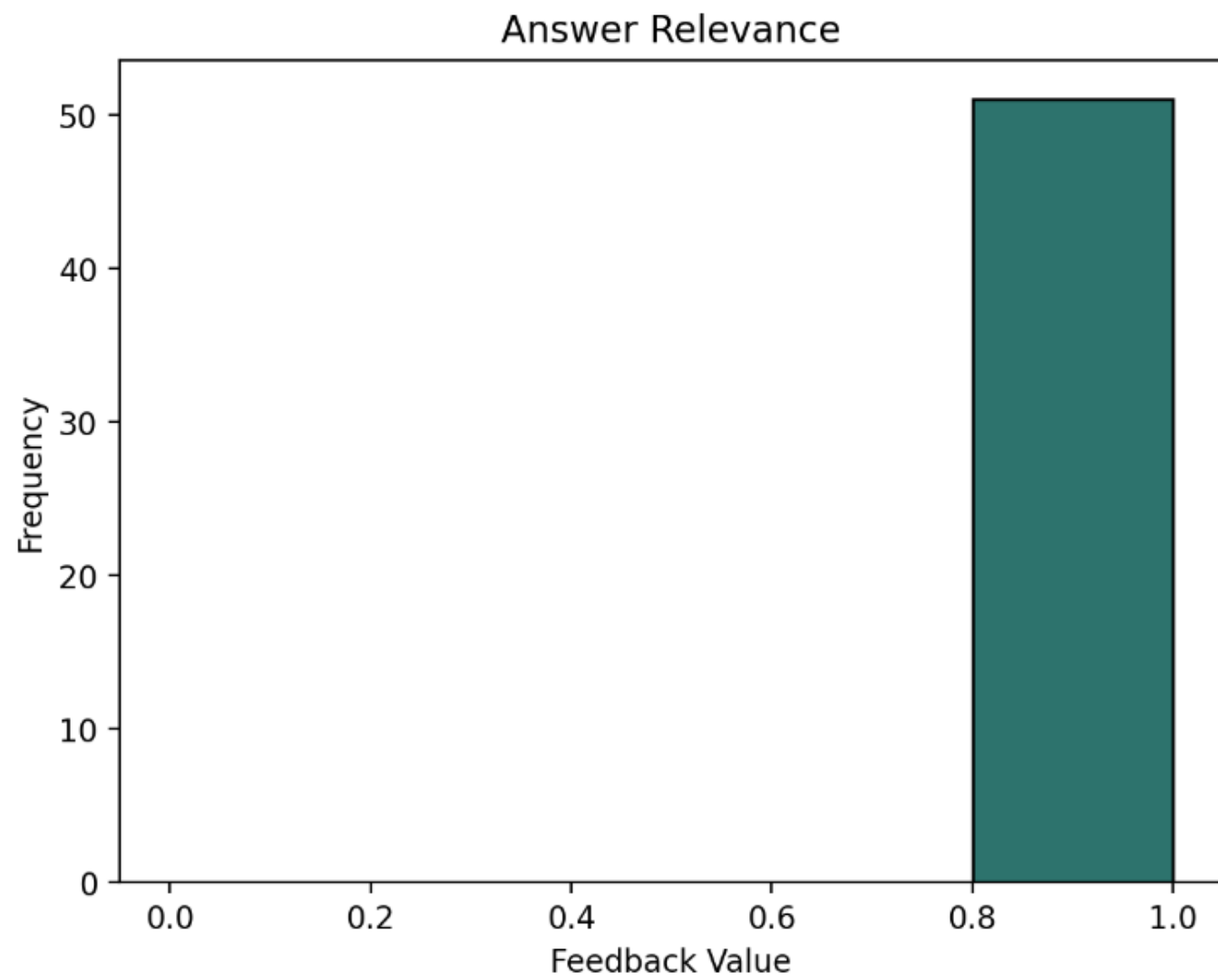


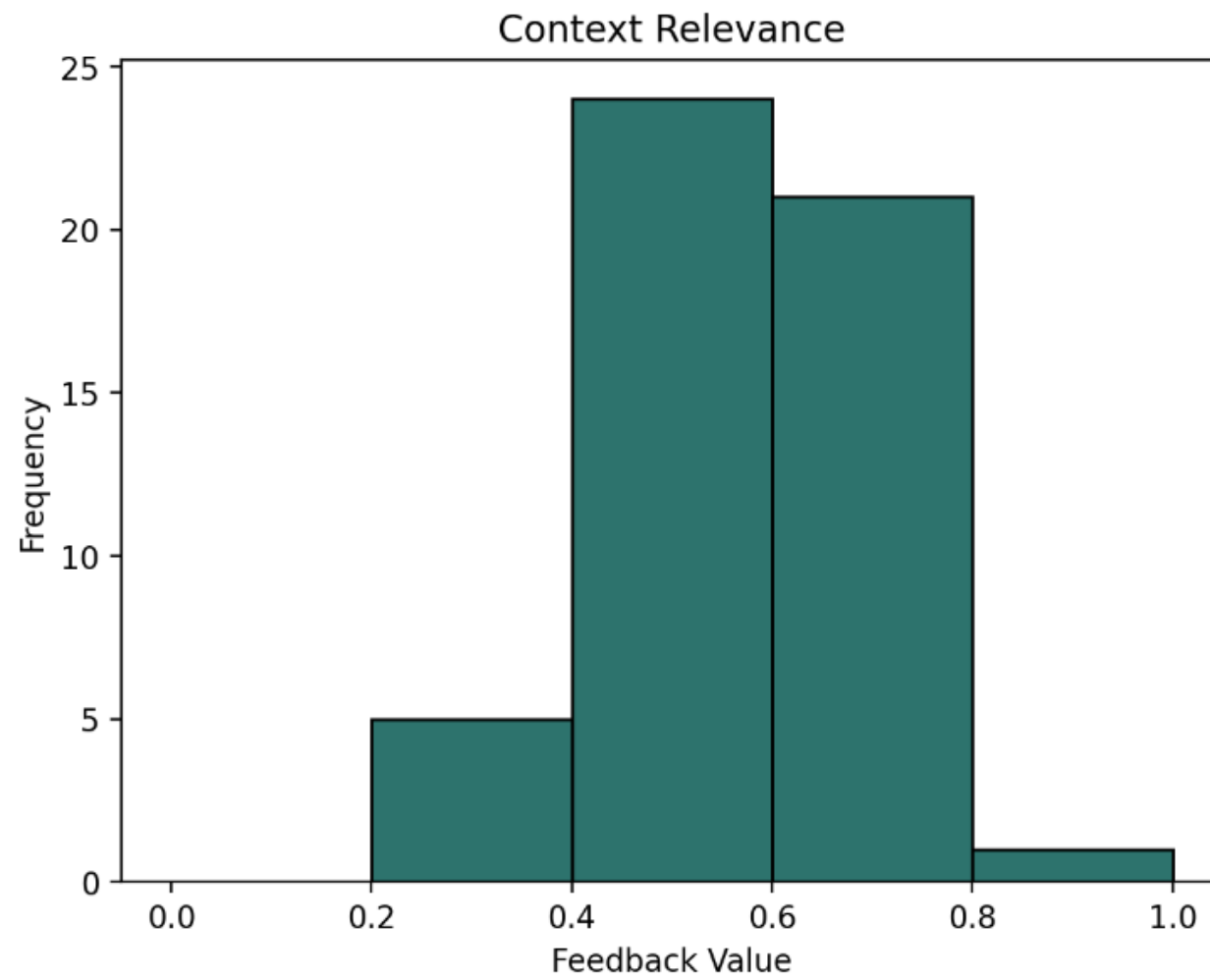
User Input	Response	Co...	Ans...	Groun...
"What is th...	"The selection of students for Minor programs is based on the number of seats available, with departments setting an upper limit on the number of Minor students the...	0.7	0.9	0.5
"What is th...	"The evaluation process for Semester internships involves the grading based on the inputs received by the concerned person within the organization where the studen...	0.75	0.8	0.375
"Is there a...	"Yes, there is an exit option available to BTech students. If a student decides to leave the dual degree program after the end of the fourth year, they may be awarded on...	0.5	0.9	0.633333...
"Is there a...	"Yes, there is an exit option available to UG students in the form of withdrawal."	0.55	1	0.55
"What is th...	"If a student wants to withdraw his degree in Minor/Honor/Double Major, they can opt out of the program and convert at most 6 credits into free electives if they have c...	0.65	0.9	0.5
"What is th...	"The percentage ratio of credits to be completed under LA/CA Electives is a minimum of 60% from LA and a maximum of 40% from CA."	0.55	0.9	0.5
"What are t...	"Merit-cum-Means (MCM) scholarships are awarded to students by the Institute according to the rules and procedures of IITH. Students can view the details of various ...	0.7	0.8	0.5
"Is the stu...	"The student is not eligible for Minor/Honors if they have backlogs."	0.7	1	0.4
"Withdraw...	"Withdrawal from the dual degree program after the completion of the final year (4th year) is permitted for BTech students."	0.5	1	0.5
"Is it mand...	"It is mandatory for the student to give feedback on the conduct of the course. If the student fails to submit the feedback, he/she will not be able to view the grades in t...	0.7	0.8	0.5
"What are t...	"The minimum total credits required in a BTech Curriculum is 24 - 27 credits."	0.3	0.8	0.35
"What is th...	"To avail a short leave during the semester, a student may apply for leave for bona fide reasons, such as medical issues. The student needs to inform the Institute auth...	0.7	0.9	0.625
"What is th...	"The maximum permissible time to complete all the requirements for Dual degree and Double major students is typically within the specified duration of the program,...	0.75	0.8	0
"What is th...	"The maximum permissible time for B.Tech and B.Des students to complete all the requirements is one additional year beyond their scheduled course period."	0.7	1	0
"What is a...	"An Audit Course is a course where a student can attend classes with permission from the course instructor, but the grade obtained in an audit course is not counted fo...	0.6	1	0.5
"How man...	"There are four elective types available at IITH for BTech students."	0.45	1	0.5
"If the stud...	"If the student receives an F grade in an elective course, it is not necessary for the student to complete the same course to clear the backlog."	0.3	1	0
"What is th...	"Adding of a course can be done up to one week of starting date of the course."	0.7	0.8	0.5
"Is a stude...	"A student is not allowed to do final registration without participating in the pre-registration process."	0.55	1	0.4
"How man...	"The semester is divided into six segments, with each segment lasting approximately 2.5 to 3 weeks."	0.6	0.9	0.5

User Input	Response	Co...	Ans...	Groun...
"Will CGPA ...	"The CGPA will reflect only the new grades and not the fail grades earned earlier."	0.6	1	0.5
"How man...	"IIT Hyderabad has 17 departments and offers various programs including Bachelor of Design (BDes), Bachelor of Technology (BTech), Master of Arts (MA), Master of Sc...	0.5	1	0.5
"Whether ...	"Admission for the BTech program at IIT Hyderabad is through the JEE (Advanced) examination, not the JEE (Mains) examination."	0.4	1	0.5
"What is th...	"A minimum grade point average is required to be maintained for satisfactory progress and continuation in the program. Students must acquire a minimum number of...	0.55	0.8	0.65
"After drop...	"After dropping the Minor, the student cannot choose to omit the courses from showing in the Consolidated Grade Report."	0.35	0.9	0
"In how m...	"Within two months from the deadline of grade submission, the incomplete grade status will be changed."	0.6	0.9	0.5
"Whether c...	"Courses from the Chemical Engineering department can be considered as Science Elective."	0.4	1	0.5
"Are any co...	"No, courses are not to be taken during the semester-long internship."	0.55	1	0
"Are the st...	"Students are not eligible for hostel accommodation beyond their scheduled course period."	0.45	1	0.5
"If the stud...	"If the student opts for a double major program and later decides to opt out, they can convert at most 6 credits into free electives if they have completed two-thirds of ...	0.55	0.9	1
"Can stude...	"Students cannot enroll for both Minor and Honors simultaneously, nor can they enroll for two Minors."	0.5	1	0.4
"What are t...	"A student who is unable to complete the graduation requirements within the maximum permissible time or faces disciplinary action for serious offenses may be termi...	0.75	1	0.78
"Students ...	"Students who do not register for more than 2 consecutive semesters without information/prior approval will be terminated."	0.7	1	1
"Minimum ...	"The minimum CGPA required to register additional (extra) courses beyond their respective nominal semester course load is not explicitly mentioned in the provided c...	0.55	1	0
"What is th...	"The maximum permissible time for completing the BTech and BDes programs is 7 years."	0.3	1	0.4
"Whether ...	"Additional courses will be considered in the CGPA calculation if they form part of the minimum requirement for the degree. Otherwise, they will be shown separately i...	0.75	0.9	0.45
"If the stud...	"If the student opted for a Double Major/Minor degree in B.Tech and then converts into a dual degree program, they will receive the respective degrees at the end of th...	0.75	0.9	0.625
"Whether s...	"Students with backlogs or incomplete grades are not eligible for Conversion from BTech to BTech+MTech."	0.7	1	0.5
"Minimum ...	"The minimum CGPA requirement for General/OBC/EWS category for Conversion from B.Tech. to B.Tech.+Ph.D. is 8.5."	0.8	1	0.5
"What is th...	"The total number of credits required to be completed after conversion from B.Tech to Ph.D is 24 - 27 credits."	0.5	0.8	0.5
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"If the student receives an F ...	"If the student receives an F grade in an elective course, it is not necessary for the student to complete the same c...	0.3	1	0
"How many elective types ar...	"There are four elective types available at IITH for BTech students."	0.45	1	0.5
"What is an Audit Course? Is ...	"An Audit Course is a course where a student can attend classes with permission from the course instructor, but th...	0.6	1	0.5
"What is the maximum perm...	"The maximum permissible time for B.Tech and B.Des students to complete all the requirements is one additional ...	0.7	1	0
"What is the maximum perm...	"The maximum permissible time to complete all the requirements for Dual degree and Double major students is t...	0.75	0.8	0
"What is the procedure to av...	"To avail a short leave during the semester, a student may apply for leave for bona fide reasons, such as medical is...	0.7	0.9	0.625
"What are the minimum tota...	"The minimum total credits required in a BTech Curriculum is 24 - 27 credits."	0.3	0.8	0.35
"Is it mandatory for the stud...	"It is mandatory for the student to give feedback on the conduct of the course. If the student fails to submit the fee...	0.7	0.8	0.5
"Withdrawal from the dual d...	"Withdrawal from the dual degree program after the completion of the final year (4th year) is permitted for BTech ...	0.5	1	0.5
"Is the student eligible for Mi...	"The student is not eligible for Minor/Honors if they have backlogs."	0.7	1	0.4
"What are the types of schol...	"Merit-cum-Means (MCM) scholarships are awarded to students by the Institute according to the rules and proced...	0.7	0.8	0.5
"What is the percentage rati...	"The percentage ratio of credits to be completed under LA/CA Electives is a minimum of 60% from LA and a maxim...	0.55	0.9	0.5
"What is the procedure if a st...	"If a student wants to withdraw his degree in Minor/Honor/Double Major, they can opt out of the program and con...	0.65	0.9	0.5
"Is there any exit option avai...	"Yes, there is an exit option available to UG students in the form of withdrawal."	0.55	1	0.55
"Is there any exit option avai...	"Yes, there is an exit option available to BTech students. If a student decides to leave the dual degree program afte...	0.5	0.9	0.633333...
"What is the evaluation proc...	"The evaluation process for Semester internships involves the grading based on the inputs received by the concer...	0.75	0.8	0.375
"What is the process of selec...	"The selection of students for Minor programs is based on the number of seats available, with departments setting...	0.7	0.9	0.5







Input

Select.RecordInput

Will CGPA reflect only new grades or fail grades earned earlier?

Output

Select.RecordOutput

The CGPA will reflect only the new grades and not the fail grades earned earlier.

Records Feedback Functions

User Input	Response	Conte...	Ans...	Grou...	
"What is the p...	"The percentage ratio of credits to be completed under LA/CA Electives is a minimum of 60% from LA and a maximum of 40% from CA."	0.55	0.9	0.5	Filters Columns
"What are the ...	"Merit-cum-Means (MCM) scholarships are awarded to students by the Institute according to the rules and procedures of IITH. Students ...	0.7	0.8	0.5	
"Is the studen...	"The student is not eligible for Minor/Honors if they have backlogs."	0.7	1	0.4	
"Withdrawal f...	"Withdrawal from the dual degree program after the completion of the final year (4th year) is permitted for BTech students."	0.5	1	0.5	
"Is it mandato...	"It is mandatory for the student to give feedback on the conduct of the course. If the student fails to submit the feedback, he/she will no...	0.7	0.8	0.5	
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Input

Select.RecordInput

What is the process of selecting the students for Minor/Double Major programs?

Output

Select.RecordOutput

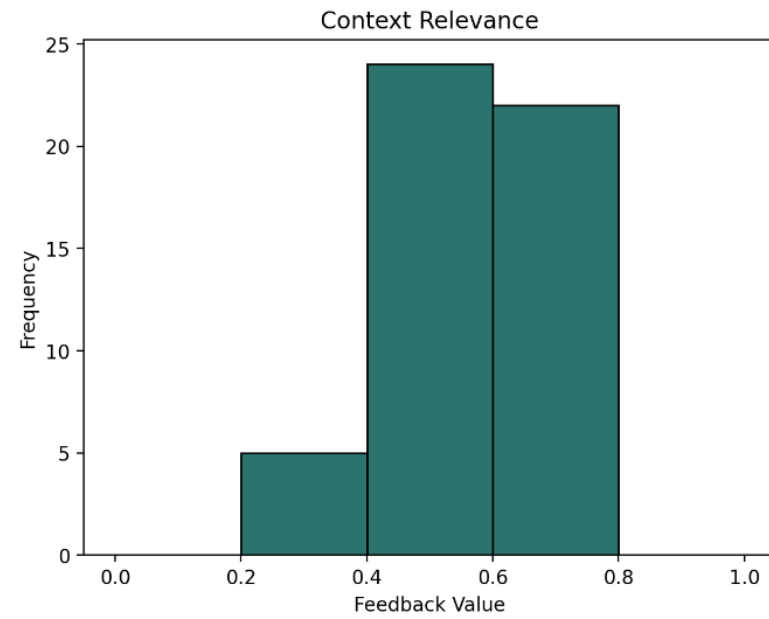
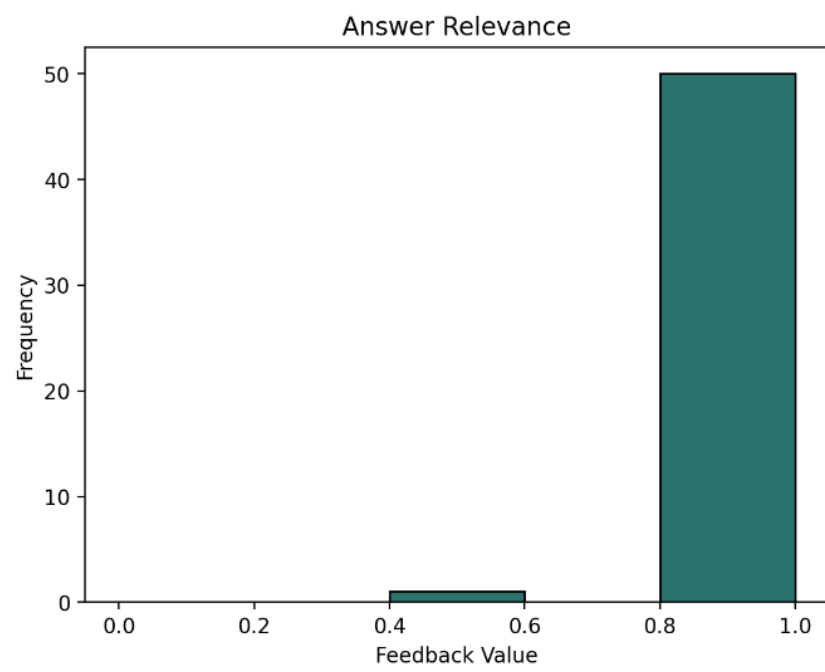
The selection of students for Minor programs is based on the number of seats available, with departments setting an upper limit on the number of Minor students they wish to take. For Double Major programs, the selection is based on the IV semester CGPA, with a minimum number or percentage of intake determined by the host department. The overall coordination for centralizing the selections is done by SUGC, convener, with assistance from the Academic office.

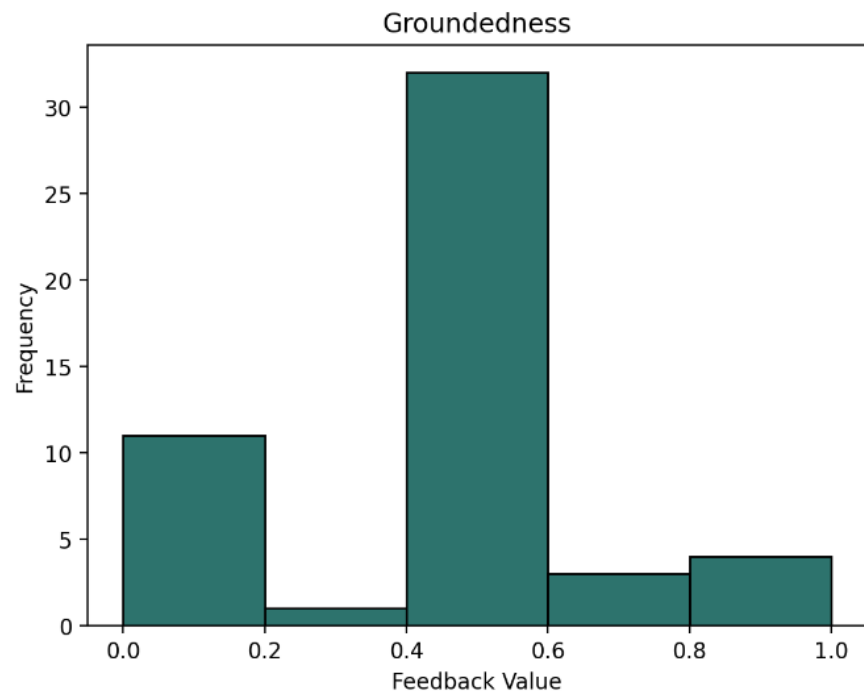
App Leaderboard

Average feedback values displayed in the range from 0 (worst) to 1 (best).

Direct query ?

Records	Average Late...	Total Cost (USD)	Total Tokens	Context Relev...	Answer Relev...	Groundedness	Select App
51	1.8	\$0	0	0.56 ⚡ low	0.95 ✓ high	0.42 ⚡ low	





User Input	Response	Grou...	Ans...	C...	Late...	
"What is the process of selec...	"The selection process for Minor programs involves departments setting an upper limit on the number of Min...	0.5	0.8	0.7	4	<div> <div>Filters</div> <div>Columns</div> </div>
"What is the evaluation proc...	"The evaluation process for Semester internships involves the grading based on the inputs received by the co...	0.45	0.8	0.75	3	
"Is there any exit option avai...	"Yes, there is an exit option available to BTech students. If a student decides to leave the dual degree program...	0.63333...	0.9	0.5	2	
"Is there any exit option avai...	"Yes, there is an exit option available to UG students in the form of withdrawal."	0.55	1	0.55	1	
"What is the procedure if a st...	"If a student wants to withdraw his degree in Minor/Honor/Double Major, they can convert at most 6 credits in...	0.58333...	0.9	0.65	3	
"What is the percentage rati...	"The percentage ratio of credits to be completed under LA/CA Electives is a minimum of 60% from LA and a m...	0.5	1	0.55	2	
"What are the types of schol...	"Merit-cum-Means (MCM) scholarships are awarded to students by the Institute according to the rules and pro...	0.56666...	0.8	0.7	2	
"Is the student eligible for Mi...	"The student is not eligible for Minor/Honors if they have backlogs."	0.45	1	0.7	2	
"Withdrawal from the dual d...	"Withdrawal from the dual degree program after the completion of the final year (4th year) is permitted for BT...	0.5	1	0.5	2	
"Is it mandatory for the stud...	"It is mandatory for the student to give feedback on the conduct of the course. If the student fails to submit th...	0.5	0.9	0.7	3	
"What are the minimum tota...	"The minimum total credits required in a BTech curriculum is 24 - 27 credits."	0.35	0.8	0.3	2	
"What is the procedure to av...	"To avail a short leave during the semester, a student may apply for leave for bona fide reasons, such as medi...	0.6	0.9	0.7	3	
"What is the maximum perm...	"The maximum permissible time to complete all the requirements for Dual degree and Double major student...	0	0.9	0.75	2	
"What is the maximum perm...	"The maximum permissible time for B.Tech and B.Des students to complete all the requirements is one additi...	0	1	0.7	2	
"What is an Audit Course? Is ...	"An Audit Course is a course where a student can attend classes with permission from the course instructor, b...	0.625	1	0.6	3	
"How many elective types ar...	"There are four elective types available at IITH for BTech students."	0.5	1	0.45	2	
"If the student receives an F ...	"If the student receives an F grade in an elective course, it is not necessary for the student to complete the sa...	0	1	0.3	2	
"What is the timeline for add...	"Adding of a course can be done up to one week of starting date of the course."	0.5	0.8	0.7	2	

"Is a student allowed to do fi...	"A student is not allowed to do final registration without participating in the pre-registration process."	0.4	1	0.55	1
"How many segments the se...	"The semester is divided into six segments, and each segment is approximately 2.5 to 3 weeks in duration."	0.5	0.8	0.6	1
"Will CGPA reflect only new g...	"The CGPA will reflect only the new grades and not the fail grades earned earlier."	0.5	1	0.6	1
"How many departments an...	"IIT Hyderabad has 17 departments and offers various programs including Bachelor of Design (BDes), Bachel...	0.5	1	0.5	2
"Whether admission for the ...	"Admission for the BTech program at IIT Hyderabad is through the JEE (Advanced) examination, not the JEE (...	0.5	1	0.4	2
"What is the minimum perce...	"A minimum grade point average is required to be maintained for satisfactory progress and continuation in th...	0.5	0.4	0.55	2
"After dropping the Minor, w...	"After dropping the Minor, the student cannot choose to omit the courses from showing in the Consolidated G...	0	1	0.35	1
"In how many months the in...	"Within two months from the deadline of grade submission, the incomplete grade status will be changed."	0.5	0.9	0.6	1
"Whether courses from the C...	"Courses from the Chemical Engineering department can be considered as Science Elective."	0.5	1	0.4	2
"Are any courses to be taken ...	"No, courses are not to be taken during the semester-long internship."	0	1	0.55	2
"Are the students eligible for...	"Students are not eligible for hostel accommodation beyond their scheduled course period."	0.5	1	0.45	1
"If the student opt for a dou...	"The minimum credits that need to be completed in a double major program so that they can be converted in...	0.95	0.9	0.55	2
"Can students also enroll for...	"Students cannot enroll for both Minor & Honors simultaneously, nor can they enroll for two Minors."	0.5	1	0.5	1
"What are the rules for termi...	"A student who is unable to complete the graduation requirements within the maximum permissible time or f...	0.85	1	0.75	3
"Students who do not regist...	"Students who do not register for more than 2 consecutive semesters without information/prior approval will...	1	1	0.7	1
"Minimum CGPA required to ...	"The minimum CGPA required to register additional (extra) courses than their respective nominal semester co...	0	1	0.55	1
"What is the maximum perm...	"The maximum permissible time for completing the BTech and BDes programs is seven years."	0.4	1	0.3	1
"Whether additional courses...	"Additional courses will be considered in the CGPA calculation, but they will be shown separately in the transc...	1	0.8	0.75	1
"If the student opted for a D...	"If the student initially opted for a Double Major or Minor degree in B.Tech and later converts into a dual degre...	0.45	0.9	0.75	3

"Whether students with bac...	"Students with backlogs or incomplete grades are not eligible for Conversion from BTech to BTech+MTech."	0.5	1	0.7	1
"Minimum CGPA requiremen...	"The minimum CGPA requirement for General/OBC/EWS category for Conversion from B.Tech. to B.Tech.+Ph...."	0.5	1	0.75	2
"What is the total number of ..."	"The total number of credits required to be completed after conversion from B.Tech to Ph.D is 24 - 27."	0.5	0.8	0.5	2
"What is the maximum durat...	"The maximum duration of the dual degree program is 5 years."	0.5	1	0.75	1
"How many credits are requi...	"Students completing 64 credits, which is equivalent to 2 years of the B.Tech program, are eligible for a Diplo..."	0.5	1	0.55	2
"In case of tie in CGPA, what ..."	"In case of a tie in CGPA, the criteria for selecting winners for the awards and medals is based on the IV semest..."	0.4	0.8	0.45	2
"Whether Internship during ..."	"Internship during the vacation period is not a mandatory part of the degree requirement."	0	1	0.4	1
"Application deadline for co..."	"The application deadline for conversion from B.Tech to B.Tech+Ph.D is the last day of instruction of the 8th s..."	0.4	0.9	0.65	1
"Can a student choose a dou..."	"A student cannot do a double major and minor in the same department."	0.5	1	0.55	1
"Minimum no. of extra credit..."	"12 extra credits are required to earn a minor degree."	0.5	1	0.55	1
"What is the maximum perm..."	"The maximum permissible time for BTech students to complete all the credit requirements is not explicitly ..."	0	1	0.45	2
"Is there any stipend for BTe..."	"There is no mention of a stipend for BTech students working as Teaching Assistants in the provided context i..."	0	1	0.35	2
"What is the one time course..."	"The one time course conversion limit for 2023 BTech students of all departments is 6 credits."	0	1	0.4	2
"Is there any CGPA criteria fo..."	"There is no specific mention of a CGPA criteria for pursuing a Semester Internship in the provided context inf..."	0	1	0.55	1

Feedback results

Feedback functions (click on a pill to learn more)

✓ Answer Relevance 1.0000

□ Context Relevance 0.4000

□ Groundedness 0.0000

Trace details

Tree	Timeline	Details	Span JSON	Metadata	Record JSON	App JSON
Direct query <code>Select.Record</code> 🕒 2 s		Latency 2 s				
RetrieverQueryEngine.query <code>Select.Record.app.query</code> 🕒 2 s		Trace I/O				
RetrieverQueryEngine.retrieve <code>Select.Record.app.retrieve</code> 🕒 534 ms		Input <code>Select.RecordInput</code> What is the one time course conversion limit for 2023 BTech students of all departments?				
		Output <code>Select.RecordOutput</code> The one time course conversion limit for 2023 BTech students of all departments is 6 credits.				