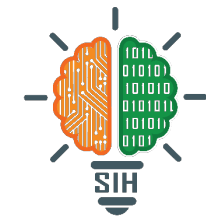


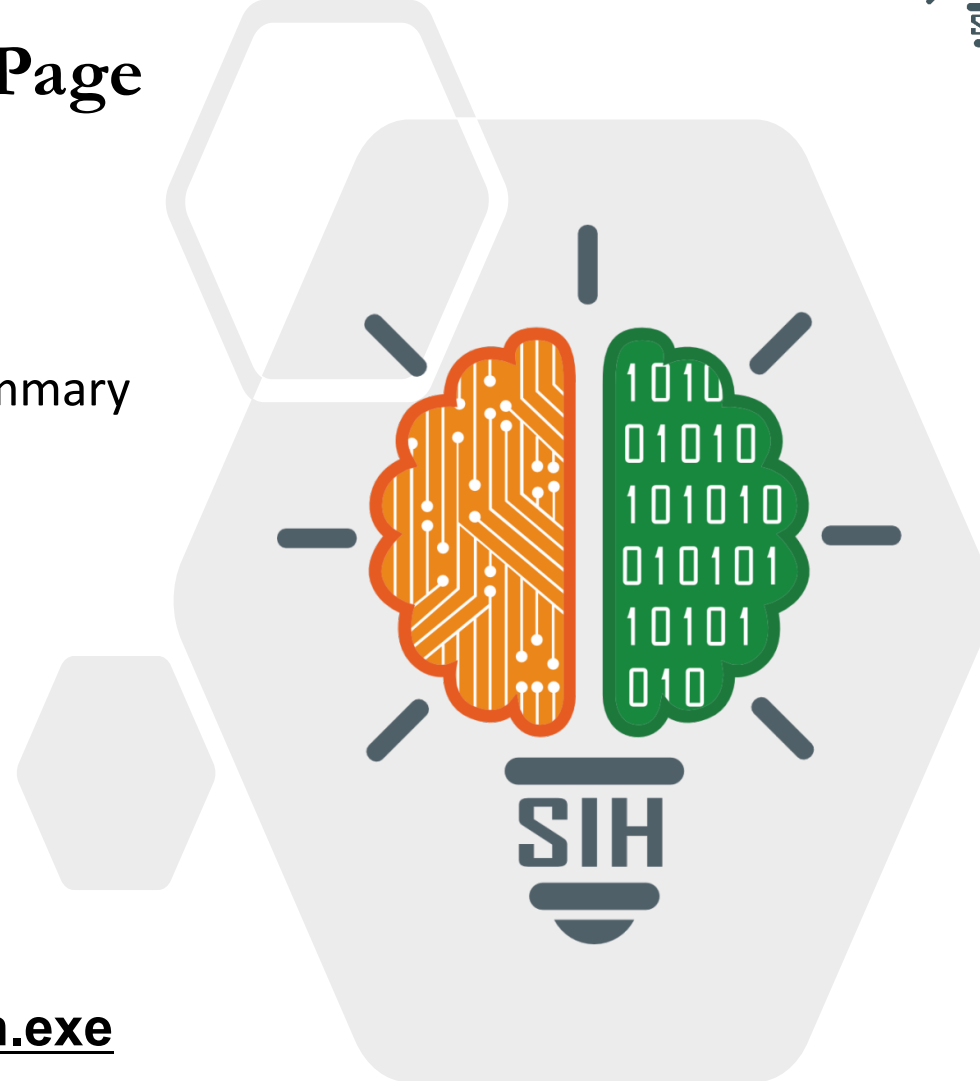
SMART INDIA HACKATHON 2024



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2024

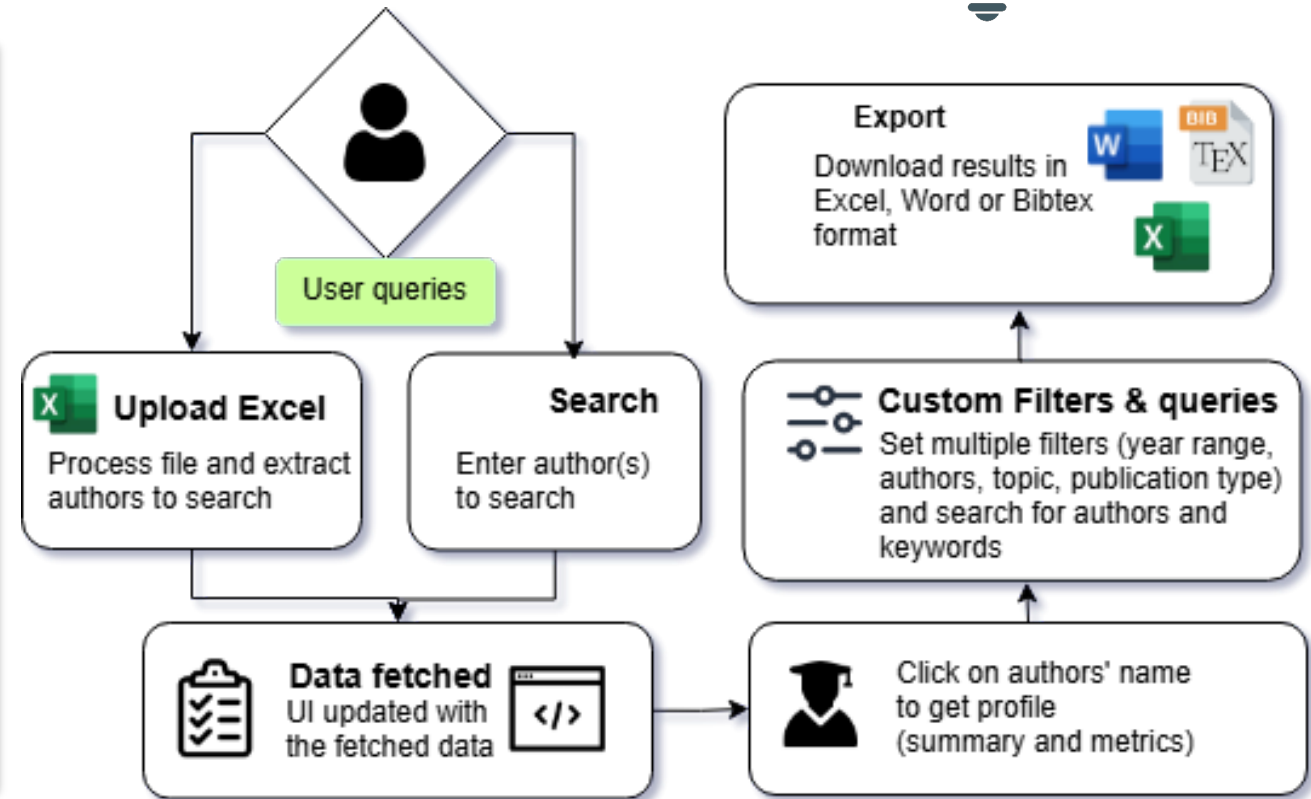
Title Page

- **Problem Statement ID – 1614**
- **Problem Statement Title - Publications summary generator for faculty members profile building**
- **Theme- Smart Education**
- **PS Category- Software**
- **Team ID - 17239**
- **Team Name (Registered on portal) – glitch.exe**



Proposed Solution

- Imagine a large university preparing for an upcoming accreditation review. Faculty members across various departments need to submit their research publications from the last five years.
- Typically, gathering this information involves manually searching through multiple sources—Google Scholar, DBLP, individual faculty webpages, and personal records—leading to errors and inefficiencies.
- With ScholarSearch, the university can instantly gather all publication data and summarize papers, with their method of choice, either API, website or an excel extension. The system automatically searches databases like Google Scholar to gather citation information and creates customized publication summaries.
- This makes it easier for universities to prepare reports for accreditation, saving time and ensuring accuracy.

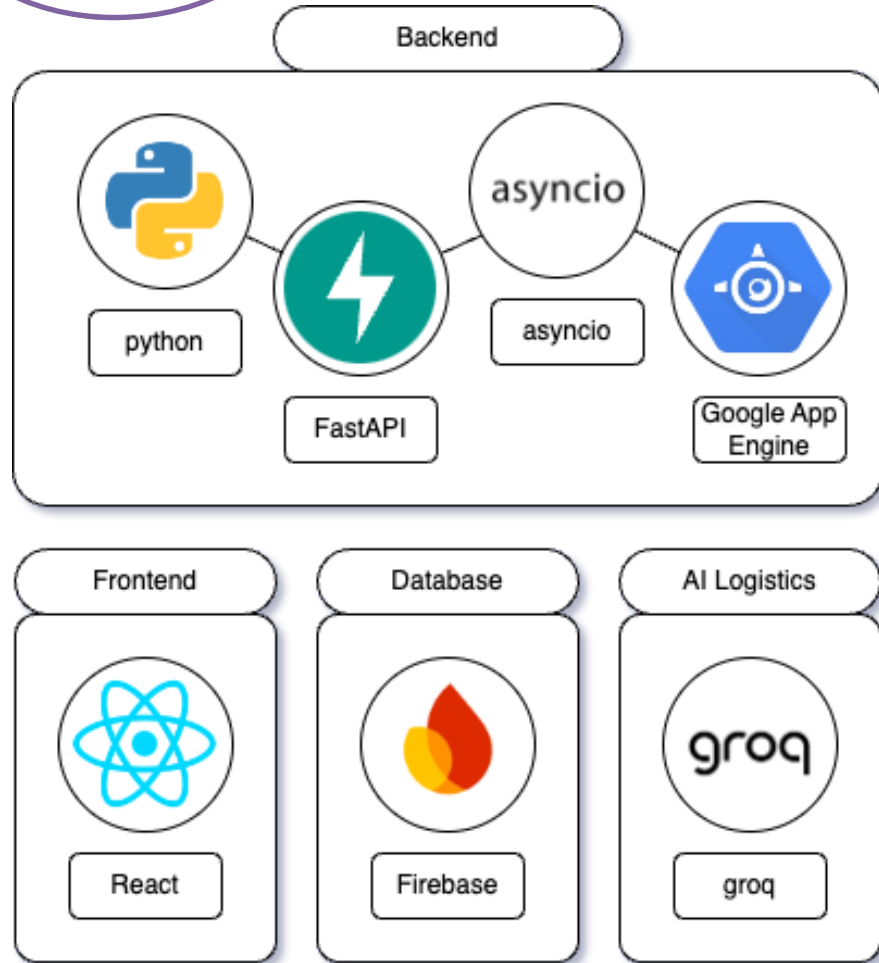


❖ Innovation & Uniqueness

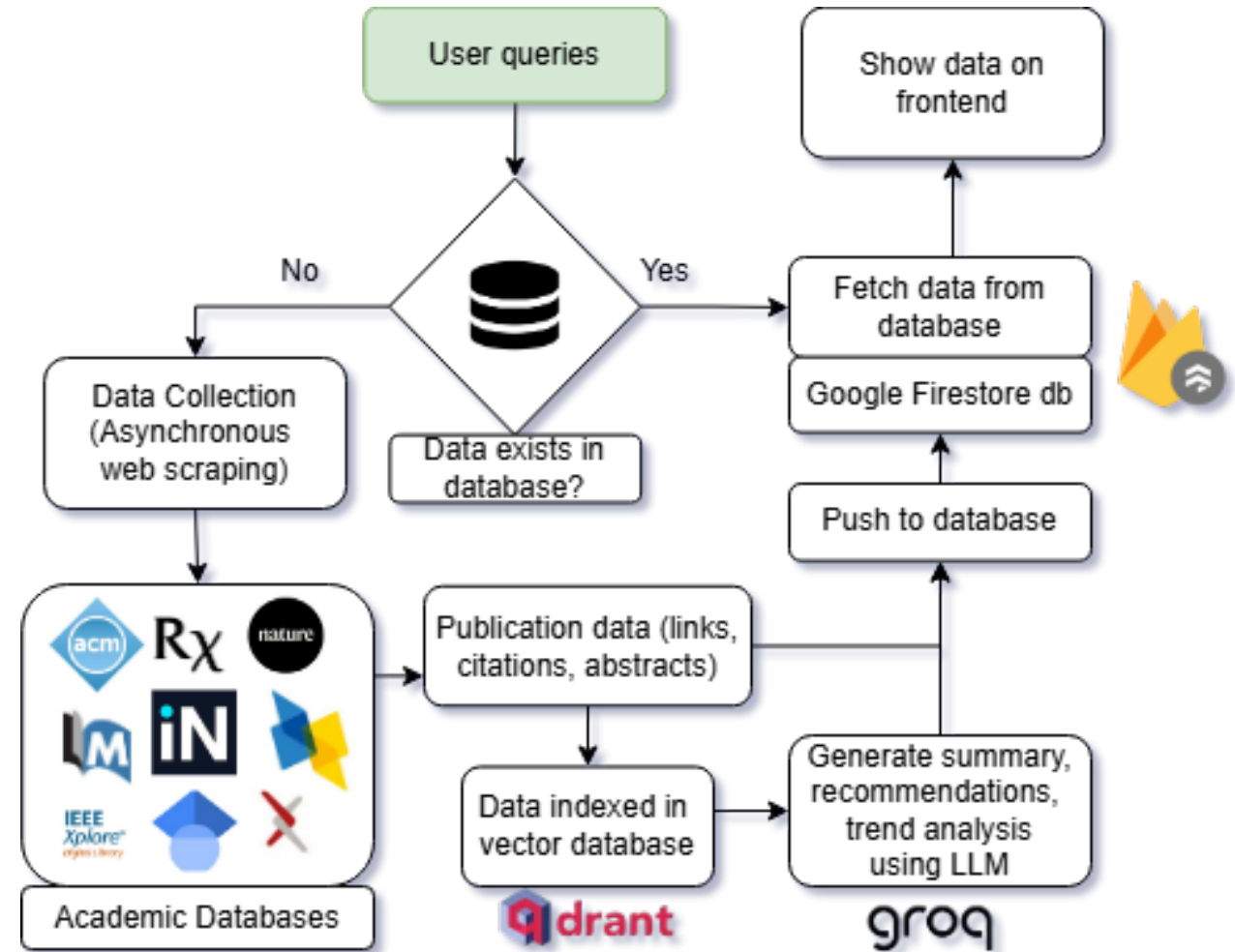
1. Author-wise summary generation, academic affiliations, and citation metrics (h-index, i10-index).
2. RAG pipeline for paper recommendations, author publication summaries and semantic search.
3. Customized querying and filtering (years, topics, authors, affiliation, publication type, location)
4. Easy to import (Excel) and easy to export (Excel, Word, Bibtex)

glitch.exe

TECHNICAL APPROACH



Tech Stack



Backend Flow

Viability

- **Aggregate data from 10+ reliable sources**, enabling custom queries on multiple authors, and deliver insights at near-zero cost, facilitating comprehensive and accurate analysis.
- Our solution provides **three flexible options**: a **website**, publicly **hosted APIs**, and an **Excel extension**, allowing users to seamlessly integrate it into their existing workflows. This ensures convenience and adaptability to their preferred methods.
- **Comprehensive organization dashboard** showcasing faculty work statistics, providing an overview of research contributions and collaborations.

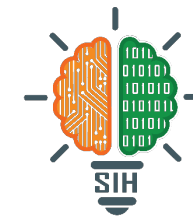
Feasibility

- Regularly updating the database of authors and their summaries will become expensive but it will be solved easily as we achieve scale. Until then we can update author summaries on demand.
- Even though we have implemented fuzzy matching, affiliation and citation based author identification there can still be some misidentifications. Integrating with established databases like Google Scholar and Scopus can significantly resolve these issues.
- Our solution is designed for **easy integration** with your existing **repositories and databases**, allowing you to seamlessly augment your current systems and workflows without disruption.

- Our solution leverages affiliation data and citation formats to accurately disambiguate author identities by cross-referencing multiple academic databases. For example, "**R. Aluvalu**" and "**Rajanikanth Aluvalu**" would be correctly identified as the same author.
- While starting a research project, you can input all potential mentors/collaborators in an excel and use our solution to extract the most relevant results rather than manually searching each author in different databases
- Environmental and Economic Benefits** - Queried results and author information are stored in a database to avoid redundant queries, thereby saving computation time and energy. The use of asynchronous programming enables multiple functions to run parallelly, which reduces processing time.

Aspect	ScholarSearch	Google Scholar	Scopus
Author Publication Summaries	✓	✗	✗
Author Profiles & Metrics	✓	✓	✗
Advanced Search	Multi Author, Affiliation, Keywords, Semantic search	Single Author, Keywords	Single Author, Affiliation, Keywords, Journal, Year
Access	Free	Free	Limited
Sort	Date, Relevance, Title, Citations	Date, Relevance	Date, Relevance
Filters & Queries	Time, Type, Topics, Authors	Time, Type	Time, Type, Topics
Import Excel	✓	✗	✗
Export Search Results	Excel, Word, Bibtex	Bibtex	✗
API access	✓	✗	Limited
Excel Extension	✓	✗	✗

Feature Comparison



- <https://pubpeer.com/static/about>
- <https://www.semanticscholar.org/>
- <https://www.scopus.com/home>
- <https://scholar.google.com/>
- Widyassari et al., 2022
[Review of automatic text summarization techniques & methods](#),
Journal of King Saud University - Computer and Information Sciences
- Nouf Ibrahim Altmami, Mohamed El Bachir Menai, 2022
[Automatic summarization of scientific articles: A survey](#),
Journal of King Saud University - Computer and Information Sciences
- Sateli et al. , 2017
[ScholarLens:extracting competences from research publications for the automatic generation of semantic user profiles.](#)
PeerJ Comput.Sci.3:e121 ;DOI10.7717/peerj-cs.12
- Johnson et al., 2014
[Automatic generation of investigator bibliographies for institutional research networking systems.](#)
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