

NLP-Based Re

Total Papers

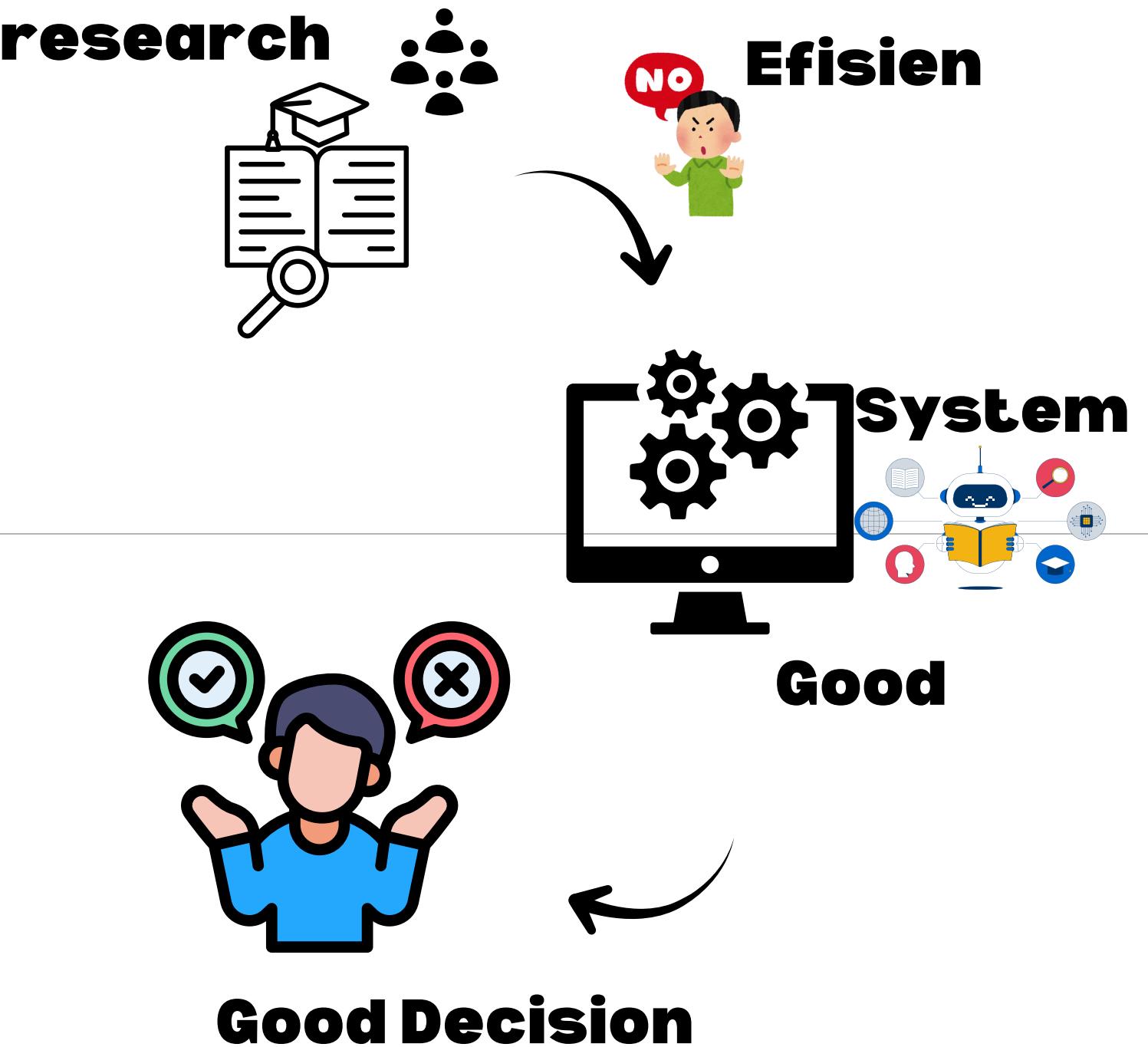
37

NLP-Based Research Paper Analysis

CAPSTONE PROJECT
BY AURA PUTRI MAHABAH (2210312024)

Latar Belakang

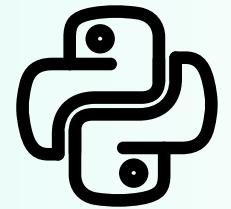
- Banyaknya publikasi ilmiah membuat proses analisis manual menjadi tidak efisien.
- Diperlukan sistem otomatis untuk membantu mengelompokkan, memahami, dan menilai konten penelitian.
- NLP digunakan untuk mengekstraksi informasi penting dari teks (abstrak, hasil, dan kesimpulan).
- Project ini mendukung efisiensi riset dan pengambilan keputusan berbasis data.



Tujuan Proyek

TUJUAN

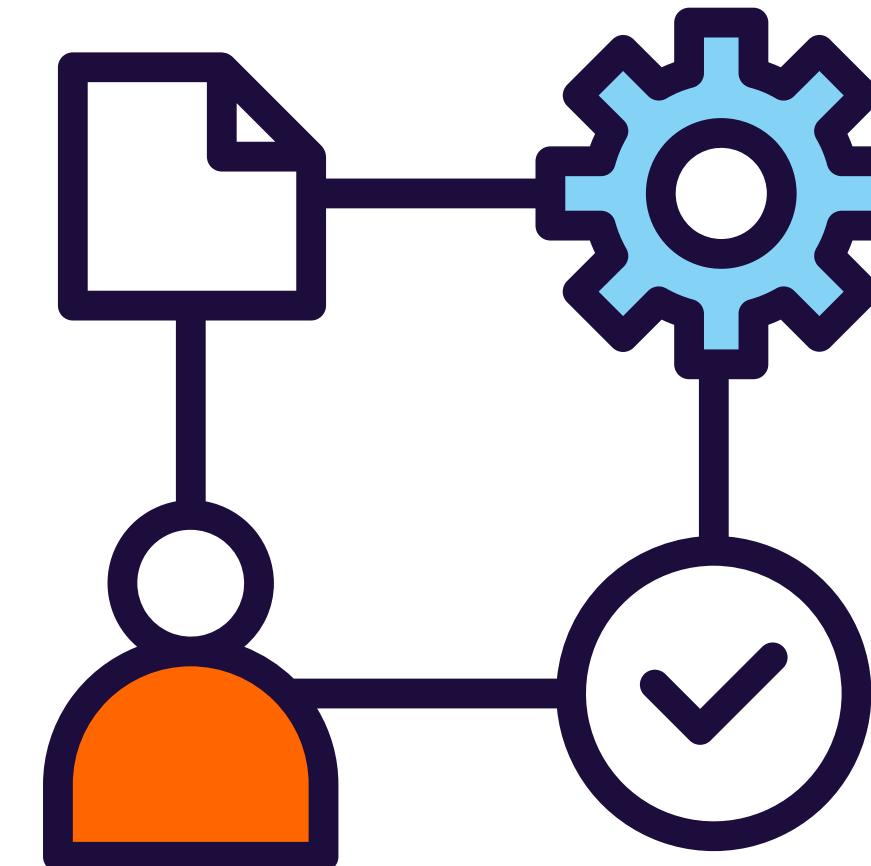
Mengembangkan aplikasi GUI berbasis Python untuk menganalisis paper penelitian menggunakan pendekatan Natural Language Processing (NLP).



1. Membangun sistem GUI yang user-friendly untuk analisis paper penelitian.
2. Mengintegrasikan Natural Language Processing untuk analisis sentimen dan isi teks.
3. Memungkinkan import data otomatis dari file Excel/CSV (Zotero atau Mendeley).
4. Menyediakan dashboard ringkas dengan tampilan semi pastel yang informatif.

Metodologi

1. Data Collection: = Mengambil data dari database referensi (Zotero/Mendeley).
2. Preprocessing = Membersihkan dan menstandarkan kolom data penelitian.
3. NLP Processing:
4. Visualization = Menampilkan hasil dalam GUI interaktif dengan statistik otomatis.
5. Testing & Validation = Uji coba dengan beberapa file CSV/Excel untuk memastikan kompatibilitas.



Desain Sistem

Komponen utama GUI:

- Banner utama: Judul proyek dan identitas.
- Quick Stats Box:
 - Total Papers
 - Rata-rata Sentiment
 - Tahun Terbaru
- Tabs:
 - Project Info
 - Create/Insert
 - View/Search
 - Update
 - Import Excel/CSV
 - NLP Analysis
 - Delete

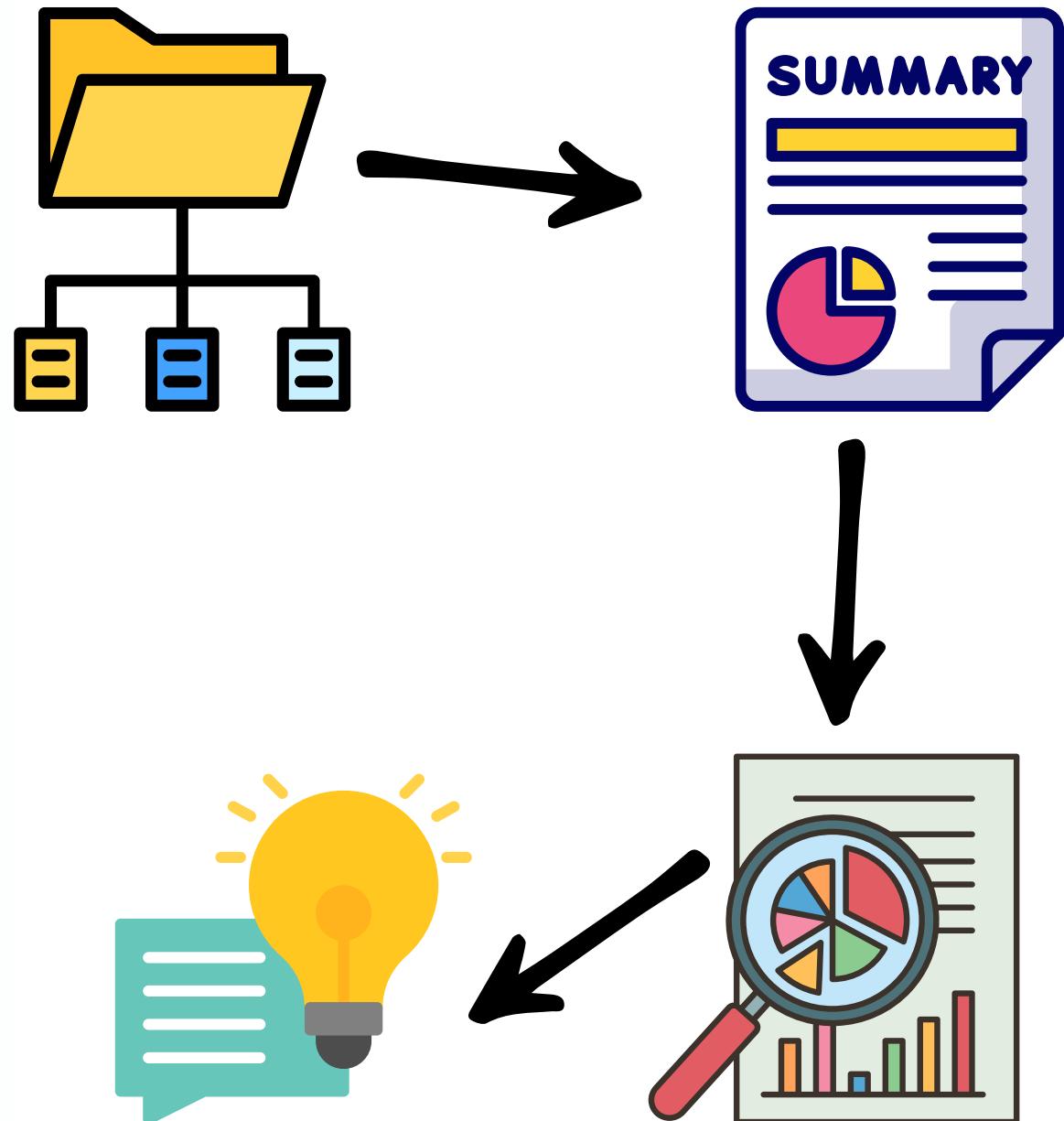


Integrasi IBM Granite

IBM Granite digunakan untuk meningkatkan analisis teks penelitian.

- Klasifikasi otomatis berdasarkan topik dan peringkat.
- Ringkasan konten abstrak menggunakan summarization.
- Analisis sentimen kontekstual berbasis LLM.
- Rekomendasi topik & referensi serupa.

Manfaat: insight otomatis, efisiensi tinggi, akurasi lebih baik.



Fitur Utama dan Tampilan GUI

NLP-Based Research Paper Analysis Capstone Project by Aura Putri Mahabah (2210312024)

Total Papers	Rata-rata Sentiment (Compound)	Tahun Terbaru
37	-0.4743	2025

Project Info Create/Insert View/Search Update Import Excel/CSV NLP Analysis Delete

Deskripsi Singkat

Aplikasi desktop ini memungkinkan pengguna untuk menyimpan data penelitian (paper), mengimpor dataset CSV/Excel (termasuk format Zotero/Mendeley), serta melakukan analisis NLP.

Petunjuk singkat:

1. Gunakan tab 'Import Excel/CSV' untuk memasukkan dataset.
2. Gunakan tab 'View/Search' untuk melihat/menelusuri data.
3. Gunakan tab 'NLP Analysis' untuk menganalisis paper atau database.

Info Create/Insert View/Search Update Import Excel/CSV NLP Analysis Delete

Search by Title: Search Show All

ID	Type	Title	Author1	Author2	Author3	Year	Rank
1	journalArticle	Analysis of Production Defects Using The 5 WHYS and RCA Method	Saputra, Fadillah Arif			2024	
2	book	Lean Six Sigma for the Office: Implementing and Sustaining Lean Improvements	Martin, James William			2021	
3	book	Flow in the office: implementing and sustaining lean improvements	Venegas, Carlos			2024	
4	journalArticle	How to develop standardized work for business processes in the office	Ahmadi, Taher; Rahmani, Nooshin			2023	
5	journalArticle	Exploring lean office in project management by means of a systematic approach	Martins, Edson Oliveira; Frederico, Guilherme			2025	
6	blogPost	Uma Musume: Cinderella Gray Episode 11 Subtitle Indonesia	nan			2025	
7	journalArticle	SEM Analysis of Contractor Performance in Accelerating Electrification Projects	Saputra, Virda Hersy Lutviana; Nasrullah, Miftah			2024	
8	journalArticle	Ergonomic Risk Assessment in Manufacturing Workplaces	Binti Ismail, Alya Nadirah; Widia, Mirta; Birrell, Daniel			2024	
9	book	The machine that changed everything: how Japan's secret weapon transformed the world	Womack, James P.; Jones, Daniel T.; Roos, Daniel			1996	
10	book	Toyota way: 14 management principles from the world's greatest manufacturer	Liker, Jeffrey K.			2004	
11	journalArticle	Application of Lean Manufacturing Methods in the Production of Plastic Products	Bucko, Michal			2022	
12	journalArticle	The Lean Manufacturing Implementation to Eliminate Waste in the Production Process	Zagloel, Yuri M.			2021	
13	journalArticle	Lean dalam Pengurangan Waktu Proses	Daonit, Ahmad Nu'man			2021	
14	book	Toyota Production System: The Key to Lean Manufacturing	Ohno, Taiichi			1988	
15	journalArticle	Gemba Kaizen: A Guide to Visual Management	Imai, Masaaki			1997	
16	journalArticle	Epistemological Explanations of the Toyota Production System	Koskela, Lauri; Ferraz, Fernando			2019	
17	book	A study of the Toyota production system	Shingo, Shigeo; Dill, Robert			1989	
18	book	A study of the Toyota production system	Shingo, Shigeo; Dill, Robert			2006	

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View/Search **Update** Import Excel/CSV NLP Analysis Delete

Import Excel/CSV

NLP Analysis

Delete

Preview Data **Import Data**

Export All NLP Results to CSV

Title	Author	Publication Year	DOI
Analysis of Production Defects Using The 5 WHYS and RCA Method	Saputra, Fadillah Anugrah; Santos, Deri Te	2024	
Lean Six Sigma for the Office: Integrating Customer Experience	Martin, James William	2021	
Flow in the office: implementing and sustaining lean improvements	Venegas, Carlos	2024	
How to develop standardized work for business processes in the office	Ahmadi, Taher; Rahmani, Nooshin	2023	
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Uma Musume: Cinderella Gray Episode 11 Subtitle Indonesia	nan	2025	
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Create/Insert **View/Search** **Update** Import Excel/CSV NLP Analysis Delete

ID:

Jan ID:

NLP Analysis:

Database (NLP) **Analyze Trends (NLP)** **Author Analysis (NLP)** **Save In...**

Compare

Export All NLP Results to CSV

Results

Project Info Create/Insert View/Search Update Import Excel/CSV NLP Analysis Delete

Delete by ID: Delete

Current Data:

ID	Title	Author1
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Kesimpulan

- Sistem berhasil membaca file Zotero dan format custom.
- Data berhasil dimasukkan ke database otomatis.
- Analisis NLP dan hasil klasifikasi tampil di dashboard.
- GUI stabil dan responsif pada berbagai uji coba.