DATE: 09/02/2025 TEAM: FINTASTIC TRIO

INFO GATHERING - REQUIREMENTS

TOP 5 GITHUB LINKS AND THE RESEARCH PAPERS 2020 ONWARDS

List of GITHUB LINKS AND RESEARCH PAPERS

GITHUB LINKS:

1. https://github.com/automagica/automagica

2. https://github.com/OpenAdaptAI/OpenAdapt

3. https://github.com/hoangsonww/DocuThinker-AI-App

4. https://github.com/DocumentAI/document-understanding

5. https://github.com/huggingface/transformers (document automation section)

RESEARCH PAPERS:

1. "Document Automation Architectures: Updated Survey in Light of Large Language Models" - Arxiv, 2023.

2. "SmartFlow: Robotic Process Automation using LLMs" - Arxiv, 2024.

3. "AI-Powered Document Automation for Data Extraction" - Academia.edu, 2022.

4. "Advancements in NLP for Automated Document Processing" - IEEE, 2021.

5. "AI-Based Legal Document Automation and Its Challenges" - Springer, 2023.

GITHUB LINKS CHOSEN:

1. https://github.com/automagica/automagica

**How It Can Help Our Project:**

- AI-powered RPA for document automation.

- Automates repetitive tasks such as PDF processing, data extraction, and workflow automation.

- Uses a combination of NLP and machine learning to improve document handling.

**Why We Are Referring to It:** ✅ AI-Driven Automation – Enhances efficiency in document workflows. ✅ Cross-Platform – Works on multiple operating systems. ✅ Open-Source – Customizable for our project's needs.

2. https://github.com/OpenAdaptAI/OpenAdapt

**How It Can Help Our Project:**

- Uses LLMs and multimodal AI for smart document automation.

- Enhances traditional RPA capabilities by integrating GPT-based AI.

**Why We Are Referring to It:** ✅ AI-Powered Process Automation – Reduces manual work. ✅ Adaptability – Can be customized for different document types. ✅ Open-Source – Allows modifications and enhancements.

3. https://github.com/hoangsonww/DocuThinker-AI-App

**How It Can Help Our Project:**

- AI-based document processing and summarization.

- Provides document insights and key highlights automatically.

**Why We Are Referring to It:** ✅ Smart Summarization – Extracts key information efficiently. ✅ NLP-Based Interaction – Allows users to query documents. ✅ AI-Powered Insights – Automates document analysis.

4. https://github.com/DocumentAI/document-understanding

**How It Can Help Our Project:**

- Uses deep learning for document structure understanding.

- Automates categorization and content extraction.

**Why We Are Referring to It:** ✅ AI-Driven Document Processing – Enhances accuracy. ✅ Scalable – Works with large datasets. ✅ Open-Source – Easily integrated with existing systems.

5. https://github.com/huggingface/transformers (document automation section)

**How It Can Help Our Project:**

- NLP models trained for document analysis.

- Includes pre-trained models for text extraction, summarization, and classification.

**Why We Are Referring to It:** ✅ State-of-the-Art NLP – Uses transformer-based models. ✅ High Accuracy – Pre-trained on large datasets. ✅ Open-Source – Allows easy customization.

RESEARCH PAPERS CHOSEN:

1. "Document Automation Architectures: Updated Survey in Light of Large Language Models"

2. "SmartFlow: Robotic Process Automation using LLMs"

3. "AI-Powered Document Automation for Data Extraction"

4. "Advancements in NLP for Automated Document Processing"

5. "AI-Based Legal Document Automation and Its Challenges"

**WHY WE HAVE CHOSEN THESE PAPERS:**

- **AI-Driven Document Processing:** These papers emphasize AI techniques for document understanding and automation.

- **Enhancing NLP Models:** Highlights improvements in NLP for better document summarization and classification.

- **Robotic Process Automation:** Focuses on integrating AI with RPA for more efficient document handling.

- **Security & Privacy Considerations:** Discusses challenges related to document automation in industries like finance and law.

- **Real-World Applications:** Provides insights into deploying AI for smart document management.

DATA SET, ALGORITHMS, EVALUATION METRICS, AND FINDINGS:

1. **https://github.com/automagica/automagica**

   o **Dataset:** Publicly available document processing datasets.

   o **Algorithms:** NLP-based classification, OCR techniques.

   o **Evaluation Metrics:** Accuracy, F1-score for document recognition.

   o **Findings:** Automates repetitive document-related tasks effectively.

2. **https://github.com/OpenAdaptAI/OpenAdapt**

   o **Dataset:** Financial and legal document datasets.

   o **Algorithms:** GPT-based LLMs, multimodal AI models.

   o **Evaluation Metrics:** NLP evaluation benchmarks.

   o **Findings:** Enhances automation with AI-driven adaptability.

3. **https://github.com/hoangsonww/DocuThinker-AI-App**

   o **Dataset:** Real-world document datasets.

   o **Algorithms:** AI-powered summarization and insight extraction.

   o **Evaluation Metrics:** ROUGE, BLEU scores for summarization.

   o **Findings:** Automates document insights generation.

4. **https://github.com/DocumentAI/document-understanding**

   o **Dataset:** Structured and unstructured document datasets.

   o **Algorithms:** Deep learning models for document processing.

   o **Evaluation Metrics:** Precision, Recall, F1-score.

   o **Findings:** Improves document structure recognition.

5. **https://github.com/huggingface/transformers**

   o **Dataset:** Hugging Face NLP datasets for document analysis.

   o **Algorithms:** Transformer models for text classification.

   o **Evaluation Metrics:** Perplexity, BLEU score, accuracy.

   o **Findings:** State-of-the-art document automation performance

- TEAM: FINTASTIC TRIO - MISBAH, SAMEER, KARTHIK