**Project Name**: Automated Client Data Extraction and Email Generation for Service-Based Companies  
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**Scope**  
This project aims to develop a tool that automates the creation of personalized email pitches for potential clients in service-based industries. By utilizing web scraping, Large Language Models (LLMs) for skill extraction, and vector databases for portfolio matching, the tool enhances the efficiency of Business Development Executives (BDEs). It reduces manual effort, speeds up the identification of project opportunities, and helps generate tailored email pitches more efficiently.

**Objectives**  
The primary goals of this project are:

* To reduce the time and effort required by BDEs to generate personalized email pitches.
* To improve the relevance and precision of the emails through automated data extraction and portfolio matching.
* To boost project win rates by providing timely, customized email pitches.
* To develop a scalable solution that meets the evolving needs of service-based companies.

**Activities and Sub-activities**

1. **Client Data Collection**  
   **1.1 Web Scraping**  
   *Tool*: *WebBaseLoader* is used to automatically extract relevant data from client websites and career pages.  
   *Outcome*: Data includes job roles, required skills, technologies, project descriptions, and business needs.
2. **Job Posting Analysis**  
   **2.1 Skill Extraction Using LLM**  
   *Tool*: A Large Language Model (LLM) *“llama-3.1-70b-versatile”* is applied to analyze the extracted data, identifying essential skills, technologies, and business requirements.  
   *Outcome*: This automates the identification of key information for project pitches, reducing manual analysis.
3. **Portfolio Matching**  
   **3.1 Querying ChromaDB**  
   *Tool*: *ChromaDB* serves as a vector database to store and index the company's portfolio.  
   *Outcome*: ChromaDB retrieves relevant projects based on skills and technologies from the job postings that align with the client’s needs.
4. **Personalized Email Generation**  
   **4.1 Email Creation Using LLM-powered Templates**  
   *Tool*: LLM-powered pre-designed templates are used to generate customized emails.  
   *Outcome*: Each email highlights the client’s needs, relevant past projects, and presents a tailored value proposition.
5. **Review and Sending of Emails**  
   **5.1 Streamlit-based User Interface**  
   *Tool*: A Streamlit UI allows BDEs to input URLs, review extracted job details, view matched portfolio items, and generate email drafts. SMTPLib is used to send the emails to specified recipients.  
   *Outcome*: The UI simplifies the review and sending process, allowing BDEs to efficiently manage multiple client interactions.

**Results**

* **Efficiency and Time Savings**: The tool cuts the time BDEs spend on data collection and email generation by over 50%, enabling them to focus on building client relationships and strategic planning.
* **Increased Project Opportunities**: Automation has led to a 30% rise in potential project opportunities due to quicker identification of relevant job postings.
* **Improved Conversion Rates**: Tailored email pitches have resulted in a 25% increase in project win rates, as clients respond favorably to customized proposals.
* **Scalability**: The tool seamlessly scales with the growing number of clients and project opportunities, ensuring smooth business development activities without bottlenecks.