CAP 931: Sales Assistant Agent Prototype – Final Documentation

# 1. Overview

This project involved the development of a sales assistant agent powered by GPT models that can help sales representatives generate strategic insights about a prospective company. The tool gathers data from a company’s website and other public sources, analyzes competitors, identifies key decision-makers, and outputs a one-page report through a user-friendly Streamlit interface. The agent was developed using a multi-agent modular approach and supports prompt refinement, PDF/DocX uploads, and optional alert systems.

# 2. Steps

Environment: Python 3.10, Streamlit, OpenAI API, Replit (dev), VS Code (local)

Libraries Used: openai, streamlit, newspaper3k, pdfplumber, docx2txt, fpdf, dotenv

LLM Agent Roles:  
- Strategy Agent  
- Competitor Agent  
- Leadership Agent

# 3. Time Management

LLM Research & Prompt Design: 6 hours  
Web Scraping + File Parsing: 5 hours  
Streamlit App UI: 4 hours  
Output Formatting (PDF, layout): 3 hours  
Testing + Iterations: 4 hours  
Documentation: 2 hours

# 4. Challenges & Solutions

Inconsistent LLM output: Used role prompts + delimiters + few-shot examples  
Parsing content from PDFs: Used pdfplumber + docx2txt and fallback plain text  
GPT token limit: Chunked input data and used summaries instead of raw dumps

# 5. Experiments

GPT-3.5 vs GPT-4: GPT-4 gave significantly better strategic summaries  
Prompt chaining: Increased accuracy by breaking down stages  
Adding self-critique: Prompting GPT to review its own output improved insight quality

# 6. System Outputs

Sample One-Pager Insight (Generated):  
  
Account Insight Report: BetaData Inc.  
  
Company Strategy:  
- Publicly stated commitment to cloud-native architecture in 2024.  
- Recent job postings show focus on Databricks, Python, AWS, and Spark.  
  
Competitor Mentions:  
- Snowflake and Google BigQuery cited in blog articles.  
- Azure Data Lake integration confirmed via partner list.  
  
Leadership:  
- CTO, James Greene, interviewed on TechRadar.  
- VP of IT Architecture spoke at AWS Summit.  
  
Product/Strategy Fit:  
- Product 'CloudSync X' aligns with real-time analytics focus.  
- Value prop of secure integration stands out versus Snowflake.  
  
Links:  
- https://techradar.com/betadata-interview  
- https://betadata.com/careers/data-engineer