# Caprae AI Challenge Report

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## Objective:

The objective was to improve upon an early-stage lead generation product (SaaSquatch Leads - Beta) by building a sharper, more intuitive tool for startup-focused prospecting — within a 5-hour development window. My goal was to create a streamlined user experience, while incorporating smart features like momentum scoring and email generation, inspired by modern sales workflows.

## Approach:

I studied the original product's demo to understand its scraping behavior, data points, and UI structure. Then, I designed **SaaSquatch Leads** — a lightweight, focused version built using **Streamlit**, designed for solo founders, B2B hunters, and VCs scouting rising startups. My approach was to automate key research tasks (company info, emails, signals) that typically take 10–15 minutes per lead — into a <30 second flow.

## Enhancements Made:

- ✅ **Automated Company Intelligence**
  Extracts name, website, LinkedIn, email, location, and logo using DuckDuckGo + Clearbit + WHOIS.

- 🧠 **AI-Powered Email Generator (via Groq)**
  Creates 3 tailored cold emails (Professional, Friendly, Casual) using the free **Groq API** with Mixtral or Gemma models — optimized for fast response with strong contextual prompts.

- 📊 **Momentum Score Engine**
  Gives a 0–100 company score based on hiring trends, funding news, domain traffic, and sentiment — displayed as a badge (🟢 Surging / 🟡 Growing / 🔴 Flat).

- 📰 **Live News Sentiment Tagging**
  Pulls recent company news headlines and classifies them using TextBlob (Positive / Neutral / Negative).

- 🎨 **Polished Modern UI**
  Crafted a clean white-light interface using CSS and psychological UI heuristics to reduce friction.

- 🖨 **One-Click CSV Export**
  All data + email copies downloadable for outbound workflows.

## Preprocessing & Tech Stack:

- **Stack:** Python, Streamlit, DuckDuckGo Search (v0.8), TextBlob, IPWhois, dotenv, pandas

- **Data Sources:** DuckDuckGo (company search), NewsAPI (sentiment), WHOIS IP for geo-location, Clearbit (logo)

- **LLM Email Gen:** Groq API (free) with Mixtral-8x7B via DeepInfra or gemma-2b via Ollama/Groq

- **Other APIs:** NewsAPI, Clearbit, WHOIS RDAP

**Evaluation & Impact:**

The result is a highly focused RAG-style tool that compresses research + outreach into seconds. It balances **speed, clarity, and automation** — while staying simple enough for solo use. In real-world settings, it could save dozens of hours per week across VC, sales, or research teams scouting fast-growing companies.

**Reason for these features:**

I focused on email generation, company context, and momentum scoring because:

- They align with real-world sales/VC workflows

- They provide *immediate insight* vs raw data

- They reflect Caprae Capital's thesis around momentum, hiring, and targeting "hidden gems"