🚀 RevenueRecon: Automated Growth & Intelligence Engine

RevenueRecon is a Python-based automated "Sales Engineer" designed for B2B consultants and digital agencies. It programmatically performs Open-Source Intelligence (OSINT) on target businesses to generate a high-value "Technical Audit & Growth Strategy" PDF report.

The tool bridges the gap between raw technical data (Security/SEO) and executive-level sales strategy, allowing users to move from "Lead" to "Strategic Proposal" in under 60 seconds.

🌟 Key Features

1. Target Acquisition & Location Intel

- **Auto-Discovery:** Locate a business website using only a Name and City.
- **Maps Intelligence:** Paste a Google Maps URL to automatically extract the target's city/area.
- **Manual Override:** Fine-tune target URLs and locations to ensure data accuracy before scanning.

2. Deep OSINT & Technical Audit

- **Security Scan:** Automated SSL certificate verification and high-risk port scanning (FTP, SSH, RDP, HTTP, HTTPS).
- **Marketing Scan:** Analyzes Title tags and Meta Descriptions for SEO optimization opportunities.
- **Tech Stack Detection:** Programmatically identifies frameworks like React, WordPress, Shopify, Bootstrap, and Cloudflare.
- **Social Footprint:** Locates official Facebook, Instagram, LinkedIn, and X (Twitter) profiles.

3. Market Battlefield (Competitor Radar)

- **Entity-First Search:** Uses the Serper Places API to find actual physical business rivals instead of generic news articles.
- **Aggressive Filtering:** Automatically removes the target business from its own competitor list to prevent data duplication.
- **Multi-Pass Discovery:** If a niche category (e.g., "Integrated Resort") yields no results, the engine automatically broadens the search to find valid rivals (e.g., "Luxury Hotels").

4. Self-Healing AI Engine

- **Dynamic Model Selector:** Uses Google Gemini with a built-in "Self-Healing" protocol. It dynamically queries your API key for available models to prevent 404 errors, automatically falling back between Gemini 1.5 Flash and Pro.
- **Automated SEO Fixer:** One-click generation of high-converting, Google-ranking meta tags.
- **Executive Strategy:** AI-authored 3-paragraph executive summary that translates technical vulnerabilities into revenue opportunities.

5. Professional PDF Reporting

- Generates a branded, multi-page PDF Audit.
- Includes a Digital Health Scorecard, Technical Appendix, Market Battlefield table, and the AI Strategic Analysis.

🛠 Tech Stack

- **Frontend:** Streamlit (Persistent State Management)
- **Search Engine:** Serper.dev API (Google Search & Google Places)
- **AI Brain:** Google Gemini API (Generative AI)
- **Backend:** Python 3.10+
- **Libraries:** `requests`, `fpdf`, `beautifulsoup4`, `pandas`, `socket`

📦 Installation & Setup

1. Clone the Repository

Bash
```
git clone https://github.com/carmelaidan/revenue-recon.git
cd revenue-recon
```

2. Install Dependencies

Bash
```
pip install -r requirements.txt
```

3. Configure Environment Variables

Create a `.env` file in the root directory or add these to your Streamlit Secrets:

Ini, TOML
```
GEMINI_API_KEY="your_google_gemini_key"
SERPER_API_KEY="your_serper_dev_key"
```

⚡ Usage Guide

1. **Launch the Dashboard:**

   Bash

   ```
   streamlit run app.py
   ```

2. **Acquire Target:** * Enter the business name and paste a Google Maps link.
   - Verify the auto-detected location (e.g., change "Solaire North" to "Quezon City") to ensure broad competitor data.
3. **Analyze & Optimize:** * Review the **Market Radar** tab to see how the client compares to rivals.
   - Use the **SEO Engine** to generate optimized meta tags.
4. **Deliver:**
   - Click **"Draft Strategy"** to let the AI analyze the data.
   - Download the **PDF Report** and send it to your prospect.

📂 Project Structure

- `app.py`: Main Streamlit dashboard and State Machine logic.
- `scanner.py`: Logic for Serper Search, Places API, and social media OSINT.
- `ai_agent.py`: Self-healing Gemini API implementation and prompt engineering.
- `reporter.py`: PDF generation engine using FPDF.
- `analyzer.py`: SSL, SEO, and Tech Stack detection signatures.
- `network_scanner.py`: Socket-based port scanning for security audits.

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