# **Request for Proposal (RFP): AI-Powered Data Agent for Product Configuration**

## **1. Project Overview**

We are seeking proposals from qualified developers or development teams to create an AI-powered Data Agent. This agent will:

* Ingest .csv files with varying column names.
* Map these columns to a standardized data schema.
* Generate configurable products based on embedded instructions.
* Integrate with the GemText API for product title and description generation.
* Feature a frontend UI developed in React.
* Be deployed within our existing .NET Azure environment, specifically as part of the platform.gemfind.net site.

## **2. Project Objectives**

### **Automated & Adaptive Data Mapping**

* Develop an AI solution capable of interpreting and mapping diverse column headers from incoming .csv files to a standardized schema.
* Allow a human user to review and override any proposed mappings through a user-friendly UI. If the AI is unable to map all columns the difficult ones can be reviewed and mapped by a human.
* Learn from human corrections to improve future mapping accuracy.
* Identify vendors based on a unique client number that can be passed into the API Calls.
* Store mapping logic per client number so that once a vendor’s format is learned, future files from the same vendor are automatically processed using the saved mapping rules. Ability to update, restore, or delete these mapping rules.

### **Configurable Product Generation**

* Enable the agent to interpret embedded instructions within the data to generate configurable product structures where applicable. See attached File for format.

### **API Integration**

* Integrate with the GemText API (https://gemtext.jewelcloud.com/docs#) to generate product titles and descriptions using the processed data.

### **Frontend Development**

* Build a React-based frontend interface that supports:
  + File upload
  + Column mapping review and override
  + Preview of final output
  + Real-time feedback and validation

### **Deployment**

* Ensure the solution integrates with and is deployable within our current .NET Azure infrastructure.
* Deploy the interface and backend services as a part of the platform.gemfind.net site.

## **3. Scope of Work**

### **3.1 Data Ingestion and Mapping**

* Accept .csv files from jewelry vendors with unique formats.
* Use AI to auto-map incoming columns to a standardized schema defined in the provided spreadsheet.
* Present a UI for users to:
  + Review the suggested mapping
  + Override mappings where necessary
* Track and save mapping overrides on a per-vendor basis, keyed by client number.
* Learn from these overrides to improve mapping accuracy in future uploads.
* Automatically apply saved mapping logic to future files from the same vendor.
* Support updates to vendor profiles as formats evolve.

### **3.2 Configurable Product Generation**

* Parse the data and follow embedded instructions for generating configurable product structures.
* Ensure full compliance with the formatting requirements defined in the provided data template.

### **3.3 Integration with GemText API**

* Implement secure integration with the GemText API.
* Manage authentication and error handling robustly.
* Submit data for title and description generation and handle responses gracefully.

### **3.4 Frontend Development**

* Develop a responsive UI using React.
* Integrate into the platform.gemfind.net domain.
* Provide interfaces for:
  + File uploads
  + Visual mapping review
  + Final output previews
  + Audit logs of user overrides

### **3.5 Deployment**

* Deploy the solution within the .NET-based Azure environment.
* Use Azure App Services, Azure Functions, or other relevant Azure technologies to ensure maintainability and scalability.
* Document deployment processes and provide training if needed.

## **4. Technical Requirements**

* Frontend: React.js
* Backend: .NET Core (C#)
* AI/ML: TensorFlow, PyTorch, or equivalent
* API Integration: RESTful
* Hosting: Azure App Services
* Data Handling: Efficient processing of large .csv files

## **5. Deliverables**

* Fully functional AI-powered Data Agent
* Reac t-based frontend interface integrated into platform.gemfind.net
* Full system documentation
* Test cases and validation results
* Deployment scripts and support documentation

## **6. Proposal Submission Requirements**

Proposals must include:

* Company Profile and Relevant Experience
* Technical Approach and Methodology
* Project Timeline with Milestones
* Cost Estimate and Licensing Details
* References and Case Studies (if available)

## **7. Evaluation Criteria**

* Understanding of project requirements
* Technical expertise and relevant experience
* Clarity and feasibility of the proposed solution
* Cost-effectiveness
* Proposed delivery timeline

## **8. Submission Deadline**

All proposals must be submitted by [Insert Deadline Date].