

# AAICO Advanced Prototypes (AP) Graduate Program

## Technical Challenge Assignment

*This document outlines the second stage of the Graduate Program interview process that consists of a time-bound realistic prototype sprint.*

The Applied AI Company's Advanced Prototyping team designs and builds software prototypes of potential AI use cases to validate the key commercial and technical assumptions.

The goal of these prototypes is to establish:

1. Is the use case possible with current generation technologies?
2. Can sufficient human guard-rails be implemented to ensure quality of service and reinforcement learning while still delivering a meaningful improvement in productivity?
3. Is the problem real and general? Or just an idiosyncratic issue with one organization?

AAICO client partners provide data samples with accurate labels and subject matter expertise on the task(s) required for the use case. AAICO generally has one week to develop the prototype and can use off-the-shelf tools to expedite already validated components of the prototype such as interfaces, OCR and database connectors. The objective of the prototype is to demonstrate the technological capability to design and build the desired use case. It is not a final product or a production level system. It is demonstrated in a controlled environment during a presentation with the client.

This challenge aims to evaluate your ability to efficiently and creatively devise an end-to-end prototype of a given scope from a simulated scenario.

**See the assignment on page 2.**

# Assignment

You need to consider a PDF in which a table contains information of individuals who have responded to a survey in different languages. The individuals have answered the following: "Please introduce yourself, specify where you live, and tell us what is your opinion on the city of Paris?"

**The goals** are, for each interviewed individual:

- Extract first and last names, if present.
- Extract his age, if present.
- Indicate which continent he comes from, if possible.
- Translate his answer in English, if needed.
- Provide a score on his opinions of Paris, between 0 (very negative) and 1 (very positive).
- Provide a score on the formality of his language, between 0 (rudimentary) and 1 (very formal).

**The deliverable** is to build an application using Streamlit in Python with the following features:

- Allow users to upload a one page PDF.
- Enable visualization of the document to confirm it has been uploaded correctly.
- Produce a table view of the results, ranked from the highest opinion score to the lowest.

Only consider the answers that have been collected by the interviewer after March 2023.

Infuse creativity as you see fit to deliver a visually captivating rendition of the entire process, from document uploading to result display.

**Delivery constraints:**

- Create a private git repository to post your final results on the main branch, invite [‘theofagnoni’](#) when you are done.
- Your solution must be reproducible locally on a Linux based terminal. The Streamlit app needs to run locally in a browser.
- You can build your solution using any free technology support, but work alone.